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CATALOGUE

OF

STARS NEAR THE ECLIPTIC,

OBSERVED

AT MARKREE, DURING THE YEARS 1852, 1853, & 1854,

AND WHOSE

PLACES ARE SUPPOSED TO BE HITHERTO UNPUBLISHED.

VOL. III.

CONTAINING 15,018 STARS.

Printed at the Expense of Her Majesty's Government, on the recommendation of the Royal Society.

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1854.

PREFACE.

THE numbers given with the heading of each month in the present volume include the Nebulæ that were observed. The number of stars in the volume is 15,018. In addition to these, 2,664 observations were made of known stars, and 2,047 of others, now or previously published in these volumes. Thus the total number of observations made to produce this Third Volume was, including 9 Nebulæ, 19,738; and the total number of stars now catalogued by us amounts to 45,115.

Both Mr. Graham and I have remarked the fact of groupings of the larger stars, and it is certain that many stars of 9th, 8½th, and, even, 8th magnitudes, have been hitherto uncatalogued. We have printed forms ready in volumes for a general catalogue of all stars within the zone, to which we have limited our labours, and we hope soon to make a considerable advance towards the completion of this more perfect enumeration of the objects in this portion of the heavens.

The work respectively performed by those attached to the Observatory was precisely similar to that mentioned in the preceding volume.

EDWARD J. COOPER.

APPROXIMATE MEAN PLACES

FOR JANUARY 1, 1850,

OF

318 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1852, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	11	18 26 35	—22 16.8	10	10	18 50 0	—22 18.0
10	10½	27 13	22 14.2	10	10½	50 52	22 19.8
10	11	28 53	22 13.0	10	11	51 33	22 25.2
10	11	29 29	22 16.1	10	12	52 15	22 19.6
10	12	30 13	22 20.8	10	11	52 40	22 24.4
10	10½	31 39	22 16.2	10	12	55 1	22 19.7
10	11	32 38	22 19.6	10	11	55 58	22 27.2
10	11½	33 7	22 25.0	18	11½	59 5	19 24.4
10	10½	33 12	22 25.1	18	11	59 15	19 24.8
10	11	34 17	22 13.3	18	11½	18 59 36	19 22.0
10	12	34 27	22 20.3	18	11½	19 0 42	19 14.1
10	11	36 12	22 15.6	18	10	0 48	19 12.3
10	11½	36 18	22 17.0	18	11½	0 56	19 13.6
10	11	36 41	22 19.5	18	11	2 6	19 20.3
10	11	40 10	22 17.2	18	10½	2 17	19 24.6
10	11	41 5	22 14.3	18	11	2 31	19 25.9
10	11	41 20	22 14.8	18	9½	2 36	19 16.3
10	10½	43 37	22 28.7	18	11	3 19	19 28.0
10	10	45 31	22 27.1	18	12½	4 35	19 25.5
10	11½	45 39	22 27.1	18	12½	4 43	19 23.3
10	11	47 37	22 17.6	18	10½	5 11	19 11.0
10	11½	47 41	22 20.3	18	11	5 20	19 15.6
10	11½	47 52	22 17.1	18	11½	5 57	19 15.1
10	8	49 27	22 9.8	18	12	6 49	19 27.8
10	12	18 49 29	—22 19.3	18	11½	19 7 9	—19 25.6

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11½	19 7 19	—19 19.4	5	8	19 21 36	—18 52.4
18	11½	8 10	19 19.4	18	12	21 57	19 13.3
18	10½	8 30	19 23.1	18	12½	21 59	19 13.2
18	10	8 36	19 27.9	18	11	22 4	19 13.6
18	10	8 44	19 19.5	18	11	22 32	19 24.0
18	10	9 16	19 24.4	18	11	22 45	19 27.0
18	11	9 35	19 19.7	18	11½	23 31	19 12.2:†
18	11½	9 36	19 16.9	5	10	23 33	19 2.9
18	10	9 44	19 20.2	18	10½	23 33	19 27.1
18	10	12 2	19 20 1	18	11	24 18	19 9.0
18	10½	12 40	19 23.5	5	11½	24 44	18 52.3 :
18	11½	14 10	19 27.1	5	10½	24 52	18 55.8
18	11	14 12	19 15.5	18	11½	25 7	19 17.6‡
18	11½	14 31	19 22.5	5	10	26 20	18 53.2
18	11½	14 44	19 25.1	5	12	26 36	18 52.5
18	10	16 3	19 10.9	5	10½	26 52	18 52.8
18	9½	16 19	19 20.5*	5	11	27 38	19 6.0
18	10½	16 19	19 11.9	5	10½	28 29	19 3.9
18	12	17 40	19 24.2	18	12	29 17	19 13.4
18	12	17 57	19 25.7	18	10½	29 25	19 13.9
18	11	18 3	19 25.3	5	11	29 32	18 56.4
5	8	19 2	19 3.9	18	11½	29 47	19 10.9
5	12	19 19	19 7.0	5	10½	29 53	18 55.9
18	12	19 23	19 11.9	5	11½	29 54	18 58.5
18	12	19 38	19 26.1	5	11½	30 15	19 4.7
18	12½	19 40	19 23.7	18	12	31 15	19 20.3
5	11½	19 42	19 7.7	5	10	31 39	18 55.6
18	12	19 55	19 13.6	5	11½	31 54	18 54.4
5	11½	20 6	19 6.4	5	11½	32 1	18 57.4*
18	9½	20 41	19 9.4	5	12	33 23	19 4.2
5 18	10	20 45	19 6.9	5	9½	33 44	18 52.1
18	12	20 49	19 14.0	18	12	33 56	19 26.1
5	9	20 50	19 1.3	5	11½	33 58	18 58.0*
5	10	20 57	18 47.0	18	12	34 1	19 26.0
18	10½	19 21 11	—19 30.6	18	12	19 34 3	—19 26.1

* (4). † Double. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10½	19 34 51	−19 9.4	19	10½	20 3 7	−16 18.4
18	11	35 21	19 17.9*	19	12	3 12	16 14.2
5	12½	36 34	18 52.9	19	12	3 20	16 14.8
5	12	37 20	19 5.6	11	11	3 42	16 40.9*
5	10	39 23	19 0.4	19	11	3 49	16 11.7
5	12	45 29	19 3.3	11	11	4 33	16 35.7
5	12	45 47	19 1.0	11	10½	5 15	16 42.4
5	11	45 56	18 49.7	19	9	5 43	16 27.6
5	10	46 39	18 50.1 :	19	12	5 44	16 29.8
5	11½	47 40	19 5.4	11	12	5 45	16 43.5
5	12	47 47	19 0.5	19	12	5 58	16 28.8
5	12	48 13	19 1.6	11	11	6 18	16 39.3
5	11½	48 36	19 3.7	11	10	6 36	16 34.4
5	10	49 30	19 7.0	19	8½	7 1	16 18.5
11	11	57 56	16 45.7	19	11½	7 17	16 24.4
19	11	58 40	16 17.3	19	11½	7 29	16 26.4
19	12	58 48	16 18.1	19	12	8 4	16 29.6†
19	12	58 56	16 18.8	11	12½	8 49	16 35.0
19	12	59 5	16 18.7	11	11	8 53	16 39.0*
19	11½	59 16	16 19.9	19	10	9 0	16 14.2
19	9	59 25	16 20.6	19	10	9 13	16 17.3
19	11	19 59 59	16 15.9	19	11	9 28	16 27.7
11	11	20 0 13	16 43.9	19	12	9 42	16 26.5
11	11	0 14	16 41.1	11	11	9 55	16 32.1
11	11	0 23	16 45.1	19	8½	10 28	16 19.1
19	9½	0 36	16 21.7	19	11	10 31	16 17.2
11	10	0 38	16 34.8	19	11	10 38	16 16.0
19	11	0 38	16 25.3	11	12	10 54	16 33.5
19	11	0 49	16 24.8	19	12	10 59	16 15.8
19	10½	1 5	16 21.2	19	12½	11 2	16 16.2
19	10½	1 46	16 14.6	11	11½	11 22	16 40.7*
19	12	1 56	16 16.3	11	11½	11 39	16 40.8*
11	11½	2 13	16 43.8	11	11½	12 11	16 44.4
11	11	2 25	16 45.6	19	12	12 18	16 27.9
19	10½	20 2 57	−16 18.3	19	10	20 12 26	−16 23.4*

* (4). † *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	11	20 13 6	—16 27.4	11	11½	20 20 56	—16 35.3
11	9	13 13	16 45.0	19	12	21 32	16 25.7
11	10	13 29	16 35.9	11	12	21 45	16 38.3
19	11½	13 55	16 14.8	19	12	22 16	16 16.9
19	11½	13 57	16 15.3	19	11	22 53	16 16.9
19	10½	13 58	16 29.3	19	11	23 0	16 30.1
11	10½	14 39	16 37.7	19	10	23 35	16 31.6
11	11½	14 50	16 35.1	11	10½	23 44	16 38.8
11	11	15 13	16 36.1	11	11½	23 53	16 52.1
11	12	15 29	16 43.0	19	10½	24 5	16 30.0
19	11	15 33	16 9.9	11	12	24 16	16 41.5
19	10½	16 2	16 30.4	19	11½	24 16	16 24.5
11	11½	16 28	16 47.6	19	11	24 22	16 27.2
19	11	16 30	16 30.0	19	12½	25 30	16 12.5
11	12	16 38	16 46.7	11	12	25 50	16 43.2
11	12	16 47	16 45.3	11	12	25 52	16 47.5
19	10	16 53	16 23.8	19	10	25 52	16 12.2
19	11½	16 56	16 11.9	11	11½	26 0	16 33.0
19	11	17 15	16 11.9	19	9	26 23	16 18.4
19	10	17 47	16 29.5	11	10	26 30	16 49.1
19	9	18 29	16 23.8	19	12½	26 48	16 14.0
11	12	18 46	16 45.4	19	12½	26 54	16 18.7
11	12	19 0	16 47.2	19	12½	26 54	16 16.5
19	12	19 4	16 27.5	11	10	27 38	16 39.3 †
19	12	19 7	16 19.2	5	12	27 47	14 10.7
19	12	19 19	16 28.4	19	10	27 54	16 26.5
11	12	19 33	16 47.4	5	12	28 3	14 7.2
19	12	19 34	16 27.4	19	11½	28 7	16 29.4
19	11	19 45	16 11.7 *	19	12	28 22	16 22.8
11	12	20 4	16 47.1	19	10½	28 25	16 25.6
19	11½	20 35	16 29.7	5	12	28 26	14 6.4
19	10½	20 36	16 27.4	5	12	28 33	14 5.2
11	10	20 39	16 43.1	5	12	28 44	14 5.2
19	11½	20 40	16 26.5	5	12	28 54	14 5.0
11	11	20 20 52	—16 34.4	11 19	10	20 28 55	—16 32.7

* P. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	10½	20 29 38	—16 27.7	5	12	20 43 45	—14 7.3
11	11½	29 56	16 42.7	5	11½	43 53	14 7.2
11	12½	30 10	16 35.4	5	11½	44 2	14 9.6
11	10½	30 20	16 31.9	5	12	45 6	14 8.7
5	11	30 31	13 54.5*	5	11½	46 47	14 1.7
11	12	31 7	16 49.1	5	11	47 45	13 53.0
5	11	31 14	13 49.8	5	10	50 30	14 3.6†
5	11½	31 16	13 53.4	5	10½	51 23	13 59.3
11	11	31 17	16 46.0	5	8	51 58	14 4.7‡
11	11½	31 18	16 44.2	5	11	51 58	13 54.7
5	10	32 19	13 50.0	5	10½	52 5	13 54.2
5	10	33 20	13 54.7	5	11½	54 18	14 3.7†
11	9½	33 54	16 31.8	5	11½	54 24	14 2.6†
11	12	34 5	16 37.4	5	12	54 29	14 9.5
11	12	34 46	16 48.7	5	12	54 30	14 7.9
11	12	34 49	16 43.3	5	11	56 33	13 55.2
5	11	34 56	13 57.7	5	11½	57 2	14 8.8
5	10½	35 15	13 54.3	5	11½	57 7	14 8.6
5	10½	35 24	13 59.4	5	10½	57 31	14 5.4
11	11½	36 14	16 43.6	5	11½	20 58 51	13 57.0
11	12½	36 14	16 44.3*	5	11	21 0 19	14 0.6
11	12	36 42	16 34.9	5	11	1 30	14 8.2
5	11	37 0	13 57.4	5	11½	2 20	14 5.3
5	11	38 5	14 10.3	5	11½	3 25	13 57.3
5	12	40 19	14 9.4	5	12	3 25	13 53.8
5	10½	41 42	13 54.8	5	12	3 35	13 53.4
5	10½	42 9	13 59.0	5	11	4 42	14 0.5
5	11½	42 13	13 53.8	5	11	20 4 43	—13 54.5
5	10	42 17	13 58.6				
5	12	20 43 30	—14 8.7				

* L. of double. † (4). ‡ ? 40599, H. C., with a mistake of 8·8 in H. C.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

766 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1852, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	10½	18 58 34	—18 28.9	4	10	19 24 15	—18 36.7
4	10	19 0 12	18 22.9*	4	9½	24 49	18 13.7
4	10	0 21	18 33.0	4	10½	26 9	18 21.4
4	10½	0 40	18 21.5	4	10½	29 45	18 27.3†
4	11	1 38	18 31.7	4	12	29 50	18 30.2
4	11	1 53	18 28.7	4	10	32 3	18 31.6
4	11	2 9	18 29.8	4	10	32 9	18 29.9
4	9½	3 4	18 18.3	17	12	47 50	21 30.8
4	9½	3 32	18 18.8	17	12	48 25	21 14.2
4	9	4 39	18 13.5	17	12	49 3	21 19.7
4	9	4 43	18 14.3	17	9	49 37	21 23.2
4	9½	5 24	18 18.3	17	12	50 36	21 10.1
4	9½	5 47	18 24.0	17	11	50 39	21 9.3
4	11	6 48	18 34.2	17	11	51 37	21 16.1
4	11	6 51	18 35.6	17	12	52 27	21 13.2
4	10½	7 51	18 20.6	17	12	53 0	21 29.1
4	10½	8 9	18 30.3	17	12	53 22	21 24.9
4	11	8 13	18 23.2	17	12	55 27	21 29.7
4	8½	9 25	18 28.3	17	12	55 36	21 16.4
4	11	9 30	18 33.4	17	12	55 40	21 31.5
4	11	9 35	18 31.4	17	12	55 45	21 14.5
4	11	14 29	18 24.4	4	10	55 50	16 7.6
4	10½	14 34	18 29.4	4	9	55 51	16 5.3
4	10	16 54	18 17.0	4	11	55 57	16 8.6
4	12	17 56	18 25.0:†	4	10½	58 9	15 58.9
4	10	18 23	18 25.6†	4	11½	58 11	15 55.0
4	10	20 23	18 22.0	17	12	58 33	21 22.3
4	10	21 46	18 28.1†	17	10½	19 59 47	21 15.6
4	10½	23 40	18 32.9	4	9½	20 0 2	16 8.8
4	11	19 23 43	—18 31.4	4	11	20 0 13	—16 6.8

* N. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	11	20 0 34	−21 15.6	4	11	20 9 37	−16 14.4
17	11½	0 51	21 27.9	4	11½	10 35	16 4.7
17	12	1 5	21 25.7	17	8	10 42	21 25.4:
4	11	1 55	15 52.0	4	10½	11 7	16 3.9
17	9½	2 5	21 27.6	16	11½	11 7	22 43.6
17	10	2 20	21 24.2	4	10	11 8	15 56.4
17	10	2 40	21 8.9	16	10½	11 12	22 35.4
4	11	2 41	15 54.5	16	11½	11 33	22 44.4
17	11	3 26	21 15.7	16	11	12 5	22 30.5
17	10	3 30	21 10.2	16	11	12 8	22 38.4*
17	11	3 39	21 18.6	17	10½	12 48	21 12.3
4	10½	4 5	16 7.3	16	11½	12 59	22 35.9
4	10	4 18	15 54.4	16	11	13 40	22 41.4
17	12	4 21	21 28.8	17	10½	13 42	21 25.9
17	12	4 46	21 25.5	16	11	14 30	22 43.7
17	11½	5 12	21 11.8	16	11½	14 53	22 31.5
16	11½	5 32	22 34.6	16	11½	15 10	22 35.5
16	11½	5 45	22 38.9	16	10	15 34	22 47.2
17	10½	6 6	21 15.2	4	10	16 16	15 50.7
4	10	6 12	16 3.7*	16	12	16 25	22 48.8
16	11½	6 35	22 36.4	16	12	16 27	22 44.7
17	12	6 38	21 26.5	4	10	16 38	16 11.0
17	12	6 38	21 29.7	16	12	16 48	22 44.7
16	11	6 45	22 33.8	4	10	17 33	15 54.8
4	11	6 50	16 8.0	16	10½	17 48	22 36.1†
16	11	6 52	22 35.7	16	9½	17 58	22 42.2
16	12	7 17	22 37.6	4	11	18 12	15 49.7
4	11	7 41	15 50.0	4	10	18 14	15 48.7
16	11	7 47	22 47.5	16	9	18 28	22 28.0
16	11	8 13	22 44.1	16	11½	18 31	22 42.2
17	12	8 18	21 19.0	16	9½	18 56	22 30.6:
4	10½	8 32	16 6.8	4	11	18 57	15 55.6
4	10	8 36	15 58.7	4	11½	19 8	15 53.4
16	12	8 58	22 28.5	16	12½	19 41	22 45.7
16	7	20 9 17	−22 27.6	4	11	20 19 42	−16 7.9

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
16	12½	20 19 46	—22 47.7	17	12	20 30 3	—15 16.4
4	10½	19 47	16 11.2*	17	12½	30 11	15 27.7
16	10	20 54	22 49.3	17	10½	30 30	15 13.3
16	11½	21 37	22 34.5	17	11½	31 37	15 27.2
4	10	21 51	15 49.9	17	10	32 24	15 26.7
16	9	22 7	22 36.8†	17	11	32 57	15 23.8
16	9	22 12	22 32.9	17	12	33 0	15 12.8
4	11	22 18	16 10.3	17	11½	33 26	15 17.8
16	11	22 26	22 47.7	17	11	33 48	15 22.6
4	11	22 29	16 8.9	17	11	35 0	15 25.9
16	9	23 1	22 31.9	17	12½	35 25	15 25.0
4	11	23 6	16 10.6	17	12	35 46	15 25.6
16	11	23 11	22 32.0	17	11	36 3	15 22.4
4	11	23 14	16 10.9	17	11	37 31	15 19.6‡
16	11	23 32	22 35.1	17	9	37 39	15 15.7
16	10½	23 54	22 43.3:	16	12½	37 48	20 39.8
4	10½	24 4	15 50.6	17	12	38 15	15 16.7
16	10	24 15	22 42.1	17	12	39 8	15 15.3
4	11	24 19	15 58.1	16	11½	39 32	20 42.3
16	10½	25 28	22 33.3	16	12½	39 35	20 48.2
16	12½	25 48	22 35.8	16	12½	39 42	20 49.4
4	10	25 56	15 53.7	16	12	39 46	20 46.8
16	11	26 16	22 34.8	17	12	39 47	15 19.9
16	11	26 23	22 35.3	16	12	39 48	20 42.7
16	11	26 40	22 37.0	17	11	40 22	15 21.0
16	11	26 50	22 34.7	17	11	40 22	15 26.5
16	10	27 16	22 36.0	17	11	41 3	15 12.7
16	9½	27 20	22 34.1	16	10½	41 10	20 34.2
17	9½	27 44	15 11.1	16	10½	41 25	20 43.7
4	10½	27 53	15 56.7	16	12	41 37	20 46.4
4	10	27 58	16 3.0‡	16	10	42 9	20 35.4:
17	11	28 5	15 28.0	16	11½	42 9	20 46.3
17	11	28 22	15 25.6	16	12½	42 36	20 46.7
17	10	28 51	15 15.2	16	12	42 51	20 47.0
17	11½	20 29 30	—15 14.4	17	11½	20 43 5	—15 14.7

* N. of double. † L. of 3. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	12½	20 44 9	—15 15.6	16	11	21 2 32	—20 48.9
16	12	44 23	20 49.3	17	12	2 33	19 14.1
16	12	44 24	20 44.7	16	11	2 35	20 49.3
16	11½	44 29	20 46.7 *	16	11	2 48	20 40.4†
16	10½	45 37	20 38.9	16	11	3 29	20 47.2
16	10½	45 52	20 43.7	16	11	4 22	20 47.0
16	11½	46 12	20 38.6	16	10½	4 43	20 47.8
17	10	47 12	15 14.5	16	11	5 4	20 51.2
16	11½	47 37	20 45.4	17	10	5 21	19 23.2
16	10½	47 41	20 45.5 :	17	11½	5 40	19 26.4
16	9½	48 15	20 36.2	17	12	6 1	19 19.0
16	8½	49 22	20 38.5	17	12	6 39	19 18.1
16	10	50 4	20 43.0†	17	11½	7 17	19 26.4
16	10	50 8	20 53.2	17	12½	8 19	19 25.6
16	11	50 47	20 34.9	17	9½	8 20	19 23.9
16	11	51 43	20 39.1	17	12½	8 40	19 23.8
16	12	52 15	20 46.2	17	8½	9 45	19 18.7†
16	11½	52 58	20 52.9	17	11	9 57	19 16.5
16	12	53 12	20 52.0	17	10	10 19	19 25.5
16	12½	53 32	20 51.2	17	12	11 32	19 26.0
16	11½	53 55	20 52.0	17	10	12 4	19 13.4
16	12½	54 11	20 46.7	17	12	12 43	19 25.3
16	9½	55 15	20 44.0	17	8½	12 51	19 27.5
16	10	56 28	20 36.7	17	12	13 51	19 22.8
16	9	56 41	20 42.3†	17	12	14 24	19 18.6
16	11	56 54	20 47.5‡	17	11	14 49	19 18.3
17	12	58 0	19 19.6	17	10	15 46	19 16.8 :
16	10½	58 31	20 49.5	17	10	15 59	19 11.3
17	12	20 58 37	19 16.6	8	10½	16 7	16 31.6
17	11	21 0 38	19 20.8†	17	10½	16 17	19 14.1§
17	10	1 22	19 17.9	17	12½	17 6	19 13.9
17	11	1 26	19 27.7	17	10	17 34	19 17.7
16	11½	1 42	20 45.6	8	10½	18 1	16 25.3
16	12	2 1	20 43.7	8	11	18 28	16 25.7
17	12	21 2 27	—19 17.3	8	10½	21 18 40	—16 25.9

* Close double. † (4). ‡ L. of double. § P. of double.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
17	11½	21 18 44	—19 12.0
17	12	19 13	19 24.9
17	12	20 13	19 15.3
17	12	20 33	19 14.0
17	9	21 50	19 15.9
17	10	22 30	19 15.7
17	12	22 38	19 23.4
17	10	24 7	19 18.1 *
17	8½	24 26	19 14.3
17	10½	24 30	19 17.6
17	12	24 48	19 16.5
17	9	25 11	19 19.7
8	9½	25 45	16 33.6
17	12	25 49	19 11.0
17	12	26 25	19 12.8
17	11½	26 55	19 13.6
17	12	27 3	19 28.4
17	12	27 51	19 13.4
17	10½	27 52	19 20.7
17	10½	28 1	19 27.8
8	10	28 47	16 23.8
17	11	29 8	19 23.6
17	10	29 31	19 14.5
8	10½	30 2	16 14.4
8	11	30 8	16 16.4
8	9	30 19	16 16.2 †
17	11½	30 40	19 11.7
17	11	31 27	19 11.0
8	9½	31 57	16 11.0 ‡
17	11½	32 28	19 27.7
8	10	32 41	16 16.9
17	10½	32 45	19 24.8
8	10	32 52	16 14.2
8	9½	33 16	16 18.0
17	11	21 33 33	—19 26.1
8	10½	21 34 36	—16 31.1
8	10½	34 38	16 28.1
17	11	35 9	19 13.5
17	11	35 17	19 17.5
17	9	35 31	19 16.3
8	9½	35 45	16 30.7
17	10	35 48	19 18.3 *
8	11	36 31	16 14.2
8	11	36 35	16 16.2
8	9	36 50	16 16.8 †
8	10½	38 1	16 16.1
8	10	38 38	16 23.1
8	10	38 45	16 14.3
8	10½	40 4	16 10.1
8	10	41 9	16 20.0
8	11	41 16	16 21.6
8	9½	41 35	16 30.3
8	9	43 34	16 13.2 †
8	9½	44 5	16 15.6
8	10	44 23	16 29.7
8	11	45 17	16 29.3
8	9½	45 33	16 24.7
8	11	46 46	16 27.6
8	10	47 3	16 26.1
8	11	47 47	16 30.4
8	11	48 15	16 31.5
8	9	48 20	16 33.9
8	10½	48 56	16 33.8
8	10½	49 32	16 29.7
8	10	50 32	16 20.3
8	10	50 49	16 27.7
8	9½	51 38	16 13.7
8	9½	51 49	16 30.7
8	9½	52 14	16 34.4
8	10½	21 53 14	—16 17.6

* (4). † M. C. ‡ S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	10	21 54 55	—16 9.9	8	10	22 34 22	— 6 10.6
8	10	55 16	16 14.4	8	9	35 59	6 13.7
8	10	55 21	16 14.2	8	10½	36 8	6 20.0
8	11	55 54	16 9.9	8	10	36 14	6 14.1
8	10½	56 8	16 14.0	8	11	36 18	6 14.4
8	10	56 42	16 16.1	15	11	36 42	5 37.3
8	10	56 59	16 18.3	15	11½	36 57	5 46.1
8	10	57 9	16 14.1	8	10½	38 14	6 14.7
8	10½	57 53	16 31.3	8	11	38 22	6 17.3*
8	10½	57 59	16 31.2	15	11½	38 56	5 37.9
8	11	59 9	16 17.0	15	10	39 21	5 31.6
8	11	59 21	16 14.4	15	10½	39 46	5 31.6
8	10½	21 59 47	16 18.9	15	10½	39 55	5 34.8
8	10½	22 0 25	16 27.4	8	10	40 34	6 27.7
8	9½	0 37	16 29.4	8	10	40 39	6 28.5
8	11	1 20	16 30.7	8	9	40 47	6 23.1
8	8	2 11	16 31.0	15	11	41 8	5 33.9
8	11	2 21	16 31.5	15	11	41 22	5 42.0
8	10½	2 23	16 26.7	15	9	41 40	5 42.7
8	10	3 12	16 31.2	15	9	42 10	5 41.4*
8	11	7 54	16 20.5*	8	9½	42 16	6 21.5
15	11½	28 15	5 31.6	15	11	42 21	5 45.1
15	9½	29 2	5 47.3	8	11	43 13	6 27.2
15	9½	29 22	5 50.1	8	11	43 38	6 26.9
8	10½	30 10	6 7.5	15	11	43 44	5 37.2
8	11	30 17	6 13.2	15	11½	43 48	5 45.7
15	9½	30 29	5 40.4	8	10½	44 9	6 26.8
15	10	30 51	5 44.6	15	11½	44 11	5 45.4
8	10	31 20	6 25.5	8	10½	44 12	6 28.1
8	10½	31 34	6 21.5	8	10½	45 25	6 26.5†
15	9	31 37	5 38.6	15	10½	45 52	5 33.6
15	10	31 47	5 41.2*	8	10½	45 57	6 24.8†
8	9½	32 12	6 25.5	15	10	46 32	5 38.9
8	9½	33 7	6 28.5	8	10½	46 57	6 14.3
8	10	22 33 11	— 6 27.9	8	11½	22 46 58	— 6 11.5

* (4). † Double.

Mag.	a.	b.
	h. m. s.	° ′
10½	20 3 7	−16 18.4
12	3 11	16 14.2
12	3 20	16 14.8
11	3 42	16 40.9*
11	3 49	16 11.7
11	4 33	16 35.7
10½	5 15	16 42.4
9	5 43	16 27.6
12	5 44	16 29.8
12	5 45	16 43.3
12	5 58	16 28.8
11	6 18	16 39.3
10	6 36	16 34.4
8½	7 1	16 18.5
12½	7 17	16 24.4
12½	7 29	16 26.4
12	8 4	16 29.6*
12½	8 49	16 35.0
11	8 53	16 39.0*
10	9 0	16 14.2
10	9 23	16 27.3
11	9 28	16 27.5
12	9 40	16 26.5
12	9 55	16 32.1
8½	10 28	16 29.1
12	10 31	16 27.2
[illegible]	[illegible]	16 26.0
[illegible]	[illegible]	16 33.5
[illegible]	[illegible]	16 [illegible]

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	9	23 22 28	— 6 7.8	17	11	23 31 35	— 2 55.3
17	10	23 3	2 56.8	9	11	32 0	+ 1 23.4
8	10	23 32	6 11.8	9	11	32 16	+ 1 20.4
17	10	23 37	3 8.4	8	10	32 24	— 6 10.0
8	11	23 44	6 15.9	17	12	33 29	3 4.1
17	10	24 51	3 7.2	17	12	33 55	2 55.8
17	10½	25 30	2 52.4	17	11	34 17	— 2 49.9
17	12	25 58	2 55.7	9	11½	34 26	+ 1 8.3
8	10½	26 3	6 14.4	17	11½	34 37	— 2 50.5
17	11	26 18	3 4.1	9	10½	34 45	+ 1 10.8
8	10½	26 24	6 12.5	9	10½	35 0	+ 1 9.6
17	10	26 37	3 2.4	17	11	35 24	— 3 4.9
17	11	26 38	2 50.0	17	11	35 29	2 55.9
8	10	26 44	6 7.3	17	9½	35 44	3 6.1
17	10	26 56	3 9.1	17	12½	35 47	— 2 57.4
8	10	27 1	6 12.1	9	10½	35 54	+ 1 10.3
8	10	27 35	6 14.9	17	12	36 57	— 3 4.9
8	10½	28 0	6 23.4	17	11	37 16	3 6.5
8	10½	28 7	6 22.3	17	9½	37 41	— 2 58.6*
17	9½	28 16	2 57.3	9	11	38 36	+ 1 26.1
17	12	28 27	3 3.7	17	11	38 57	— 2 54.3
8	9½	28 38	6 27.0	17	10½	39 16	3 0.3
17	12	28 55	3 2.5	17	12	39 19	2 56.1
17	11½	29 7	2 56.1	17	12	39 27	2 55.4
17	11½	29 10	2 50.3	17	10	40 40	2 59.2
8	11	29 33	6 16.9	17	11½	40 44	3 8.9
8	10½	29 33	6 13.6	17	11	40 50	2 47.0
17	11	29 45	3 6.7	17	12½	42 39	3 1.3
8	10½	29 48	— 6 16.2	17	10	42 47	2 51.1
9	10	29 50	+ 1 18.7	17	9	42 52	2 54.0
17	12	30 34	— 3 8.3	17	11	44 25	3 8.9
8	10	30 35	6 27.4	17	12½	44 32	— 3 0.5
8	10	30 57	6 26.6	9	11	44 35	+ 1 22.3
17	11½	31 11	— 2 49.4	9	11	44 43	+ 1 19.8
9	10½	23 31 34	+ 1 19.4	17	9½	23 45 39	— 2 59.2

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	11½	23 45 46	— 2 56.1	17	11½	23 58 5	— 2 50.9
17	11	45 53	2 58.4	17	11½	58 8	3 0.6
17	11½	46 4	2 54.6	17	10½	58 8	2 49.6
17	9½	46 15	— 3 3.4	17	11	58 28	— 2 50.9
9	10	46 32	+ 1 25.2	9	10½	58 47	+ 1 5.5†
17	10½	46 39	— 2 54.4	9	10	59 33	+ 1 28.9
9	10	48 19	+ 1 22.8	17		59 34	— 3 0.2
9	11½	48 26	+ 1 21.5	17	11	23 59 59	3 3.3
17	12½	48 48	— 2 55.8	17	9½	0 0 4	— 3 1.2
17	11½	48 54	— 2 56.2	9	11½	0 22	+ 1 20.3
9	10	49 7	+ 1 25.5	9	10½	0 23	1 21.7
9	10½	49 34	1 23.7	9	10	1 35	+ 1 23.9
9	10	50 20	+ 1 8.8	17	10	1 35	— 3 4.8
17	12	51 26	— 2 52.4	9	10½	2 33	+ 1 22.2
9	10	51 33	+ 1 18.7*	9	10	3 8	1 14.5
9	10½	51 48	+ 1 19.6	9	10½	4 16	1 21.9
17	11	51 49	— 3 0.9	9	10½	4 59	1 13.9
9	9½	51 54	+ 1 25.1	9	11	5 14	1 11.8
17	11	52 21	— 2 57.6*	9	10	7 13	1 28.4
17	11	52 30	— 2 51.8	9	10	8 20	1 17.7*
9	10	52 51	+ 1 7.3	9	9½	11 9	1 28.4
17	10	53 5	— 2 53.8	9	10½	11 24	1 24.0
17	9½	53 12	— 2 51.0	9	10½	11 46	1 24.7
9	10½	53 39	+ 1 8.9	9	10	12 27	1 10.2
9	10½	53 50	1 12.2	9	11½	12 29	1 8.8
9	10½	54 24	+ 1 11.6	9	11	13 6	1 7.8
17	9	54 36	— 2 58.2*	9	11	14 5	1 14.3
17	12	54 46	2 57.6	9	11	14 33	1 15.0
17	12	55 33	3 2.2	9	10	14 51	1 7.7
17	12	55 34	3 4.9	9	10½	15 54	1 20.7
17	12	56 24	3 2.3	9	11	16 17	1 10.1
17	12	56 28	3 2.7	9	11	16 20	1 9.2
17	12	56 40	3 1.9	9	11½	19 5	1 22.1
17	12½	56 56	— 2 54.5	9	10	19 37	1 19.8
9	11	23 57 50	+ 1 8.5:	9	10	0 19 49	+ 1 25.7

* (4). † Close double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	0 19 52	+ 1 25.0	9	11½	0 42 13	+ 1 21.6
9	11	21 27	1 25.1	9	10½	42 52	1 12.1
9	10	21 42	1 21.3	9	11	43 37	1 24.3
9	11	22 12	1 23.8:	9	10½	44 44	1 10.3
9	10½	22 58	1 23.0	9	10	45 27	1 19.4
9	11	23 35	1 8.1	9	11	45 28	1 25.7
9	10	24 33	1 25.5	9	10	46 18	1 13.0
9	10	25 20	1 20.3	9	10	46 30	1 27.2
9	10	25 33	1 23.5	9	10½	47 40	1 13.0
9	10½	26 16	1 11.2	9	10½	47 54	1 11.2
9	10	26 59	1 18.2*	9	10½	47 59	1 21.9
9	9	27 22	1 19.9	9	10½	48 41	1 9.3
9	10	28 52	1 18.5	9	10	49 14	1 15.7*
9	10½	29 47	1 21.2	9	11	50 33	1 9.1
9	10	30 17	1 18.8	9	11	50 46	1 12.7
9	10½	30 41	1 18.4	9	10½	51 39	1 11.5
9	10	31 47	1 5.3	9	11	52 3	1 14.0
9	10	32 39	1 14.6	9	10½	52 8	1 12.2
9	11½	32 40	1 20.2	9	9½	53 24	1 24.7
9	11	33 45	1 10.0	9	10½	54 8	1 11.6
9	10	34 11	1 12.2	9	10	54 15	1 14.3
9	11½	34 12	1 10.2	9	11½	56 7	1 22.9:
9	9½	35 47	1 28.9	9	10½	56 9	1 21.7:
9	9½	37 17	1 25.9	9	10½	56 37	1 21.0
9	10½	37 39	1 25.9	9	11½	57 38	1 22.4
9	10	37 48	1 28.2	9	11	57 46	1 22.6
9	10½	38 31	1 10.7	9	10½	57 50	1 23.1
9	9	39 1	1 7.2	9	9	58 30	1 8.8
9	10½	39 5	1 8.8	9	9	0 58 59	1 29.5
9	10½	40 14	1 23.9	9	10	1 0 37	1 19.6
9	10½	40 15	1 25.2	9	10½	2 3	1 23.8
9	10½	40 44	1 18.7	9	10	2 22	1 12.5
9	9½	0 41 32	+ 1 28.1	9	11	1 2 29	+ 1 11.6

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

451 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1852, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	12	22 1 6	—14 18.7	13	12	22 20 43	—14 27.7
13	11½	1 55	14 17.2	13	9	21 3	14 27.9
13	11	2 13	14 15.8	13	12	21 36	14 27.8
13	12	3 14	14 31.5*	13	12	22 6	14 23.1
13	12	3 51	14 29.1	13	12	22 33	14 26.5
13	12	5 40	14 24.8	13	9½	22 44	14 18.6†
13	10	6 25	14 15.3	13	9	23 18	14 17.6
13	11	7 18	14 15.5	13	9½	23 29	14 24.7
13	10	8 48	14 29.5	13	11	25 37	14 11.4
13	12½	8 54	14 25.1	13	12	26 0	14 13.3
13	11	9 49	14 29.2	13	10	26 29	14 11.9
13	11½	9 56	14 27.0	13	12	27 25	14 24.4
13	11	11 19	14 11.5*	13	12	27 27	14 23.9
13	11½	12 12	14 27.9	13	11	27 59	14 21.5†
13	11	12 21	14 23.8	13	11½	28 4	14 30.5
13	12½	13 21	14 29.2	13	11½	28 19	14 28.5
13	12½	13 26	14 26.8	13	12	29 23	14 26.5
13	10½	13 40	14 27.3	13	12	29 49	14 24.8
13	12½	15 5	14 28.5	13	12	29 52	14 26.7
13	11	16 9	14 8.3	13	11	30 43	14 12.0
13	11	16 17	14 11.1	13	12½	31 4	14 14.6
13	10½	17 3	14 27.2	13	11½	31 8	14 13.7
13	12½	17 22	14 26.0	13	11½	32 6	14 11.5
13	12	18 3	14 24.5	13	10	32 8	14 24.3
13	12½	18 32	14 26.5	13	10	32 31	14 14.3
13	12	18 58	14 30.5	13	12	33 17	14 17.0
13	12	19 13	14 28.5	13	12	33 57	14 18.3
13	12	19 17	14 29.2	13	12½	34 0	14 16.3
13	12	20 2	14 26.0	13	10	34 25	14 18.5†
13	12	22 20 4	—14 31.4	13	12	22 56 26	— 1 40.4

* S. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	10	22 57 14	— 1 40.4	13	12	23 14 46	— 1 33.1
13	10½	58 18	1 42.4*	13	9½	14 52	1 32.7
13	12	58 19	1 29.1	13	9	14 59	1 38.2
13	10	22 59 23	1 48.1	13	11½	15 22	1 47.6
13	11	23 0 39	1 28.2	13	8	16 2	1 42·3
13	12	1 12	1 45.8	13	10	16 10	1 52.4
13	10½	1 44	1 37.4	13	9	16 49	1 47.8
13	9	2 5	1 38.2*	13	12	16 54	1 43.6
13	12	2 10	1 38.1	13	12½	17 25	1 47.1
13	10	2 27	1 34.8	13	12	17 27	1 43.9
13	10	2 30	1 42.6	13	11½	17 29	1 49.3
13	12	3 31	1 32.9	13	11	18 30	1 33.3
13	10½	4 8	1 48.3	13	11½	18 47	1 39.1*
13	11	5 2	1 38.9	13	9	19 15	1 48.1
13	11	5 42	1 39.5*	13	12	19 19	1 47.7
13	12	6 35	1 41.9	13	12	21 6	1 43.5
13	12	6 41	1 47.0	13	7½	21 6	1 39.4
13	12	6 43	1 48.3	13	12	22 22	1 47.7
13	12	6 51	1 48.1	13	11½	22 55	1 42·9
13	10	7 33	1 30.9	13	11½	23 23	1 35.3
13	10½	8 6	1 49.2	13	12	23 30	1 46.0
13	8½	8 9	1 37.3	13	12	23 55	1 45.7†
13	10	9 52	1 39.2	13	12	24 38	1 38.7
13	9½	9 52	1 37.1	13	12	24 48	1 33.8
13	12	9 57	1 34.2	13	12	25 1	1 36.6
13	12½	10 27	1 38.4	13	12	26 5	1 40.4
13	10	10 51	1 52.8	13	11	26 25	1 48.0
13	12	11 35	1 44.6	13	12	27 36	1 51.6:
13	12	11 54	1 33.5	13	11	28 32	1 31.1
13	11	11 55	1 35.1	13	10½	28 39	1 38.4
13	12	12 15	1 36.2	28	12	28 48	0 37.3:
13	12	12 56	1 33.1	13	12	28 55	1 31.9
13	12	13 14	1 33.2	13	10	29 54	1 45.6
13	12	13 48	1 36.2	13	8½	30 30	1 39.4
13	11½	23 14 5	— 1 34.8	13	8	23 30 35	— 1 41.9

* (4). † A. 12½ N.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	12	23 30 59	— 1 34.2:	28	10	23 46 24	— 0 36.3
28	12	30 59	0 35.0	28	11	47 18	0 49.2
13	12	31 0	1 37.9	13	11½	49 11	1 35.2
13	11½	31 12	1 33.7	28	10½	49 16	0 40.4*
28	10½	31 14	0 48.4	13	11½	49 17	1 33.4
28	9	31 23	0 42.4	28	12	49 53	0 31.8
28	12	31 25	0 47.1	13	12	50 9	1 44.4
13	8½	31 46	1 48.5	13	12	50 18	1 44.2
28	11½	31 53	0 47.3	13	12½	50 34	1 42.7
13	8	32 3	1 34.2	28	11	50 39	0 30.6
13	8	32 18	1 34.8	13	12	50 41	1 44.4
28	10	32 32	0 46.6	13	11	50 42	1 42.0
13	12	32 43	1 37.5	13	11	51 10	1 41.9
28	11	32 50	0 49.1	28	11	51 30	0 36.4†
13	11	33 0	1 45.8	13	11½	51 57	1 46.3
13	9	33 13	1 34.2	13	12½	51 58	1 45.6
28	9	33 38	0 32.8	13	11	52 32	1 44.8
28	11½	33 45	0 51.6	28	9½	52 47	0 37.9
13	12½	35 18	1 48.6	13	12	52 53	1 52.5
28	12	36 9	0 33.8	28	11½	52 59	0 31.1
13	12½	36 21	1 35.9	13	12	53 11	1 30.8
13	10	39 12	1 49.1	28	11	53 55	0 35.9
13	10½	39 47	1 31.7	13	12	54 7	1 32.5
28	10	40 1	0 38.1*	28	12	54 7	0 38.2
28	11½	40 22	0 36.2	13	11½	54 13	1 39.0
28	11	40 45	0 38.2*	13	11½	54 13	1 49.2
13	12	41 7	1 36.6	13	12	55 20	1 45.5
13	12	41 57	1 42.8	28	12	55 26	0 44.9
28	11	42 28	0 38.2	13	10½	55 52	1 45.9
13	12	43 13	1 35.1	13	10	57 49	1 37.4
13	12½	43 21	1 45.9	28	11½	58 5	0 32.0
13	12	44 41	1 39.5	13	10½	58 21	1 36.9
28	12	44 56	0 46.4	13	12	58 29	1 48.7
28	11½	45 40	0 37.7	28	12	58 32	0 45.0
28	11½	23 45 47	— 0 47.0	13	11	23 59 2	— 1 33.0

* (4). † L. of 3.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	12	23 59 36	— 1 35.0	13	12	0 9 7	— 1 47.1:
13	12	23 59 52	1 36.3	13	12	9 14	— 1 47.9
13	12	0 0 0	1 41.8	22	11½	9 41	+ 4 48.8
13	11½	0 27	1 41.3*	13	10	10 1	— 1 31.6
28	12	0 47	0 33.8	13	11½	10 9	1 36.8
13	10	1 32	1 35.1	13	12	10 23	1 34.9
13	12½	2 6	1 47.1	13	9	10 37	— 1 32.7
28	12	2 16	0 42.2	22	11	10 49	+ 4 59.0*
28	12	2 26	0 41.3	28	12	10 54	— 0 44.2
13	10½	3 14	— 1 33.3	13	12½	11 13	1 47.4
22	10	3 14	+ 5 2.7	28	11½	11 28	— 0 43.8
22	12½	3 44	+ 4 52.0	22	12	11 34	+ 5 2.7
13	11	3 45	— 1 48.1	22	12	11 40	5 2.0:
22	12	3 45	+ 4 58.3	22	12	11 42	+ 5 1.4
13	11½	3 50	— 1 45.5	28	11	11 46	— 0 37.7
28	11	3 51	0 43.5	22	9½	11 47	+ 4 55.6
13	12	3 55	1 48.3	13	10	11 57	— 1 51.9
28	11½	4 17	0 34.6	13	12	12 12	1 44.9
28	11	4 29	0 35.1	28	10	12 48	— 0 42.3
28	11	4 29	— 0 33.4	22	10	13 9	+ 5 7.8
22	9	4 55	+ 4 55.0	22	11	13 10	+ 4 56.9
13	12	5 11	— 1 46.2	13	12½	13 17	— 1 33.0
13	12	5 13	1 49.0	13	9½	13 48	— 1 46.6
13	11½	5 16	— 1 44.1	22	11	14 1	+ 4 56.9
22	12½	5 21	+ 5 8.4	28	12	14 6	— 0 32.9
22	11	6 3	+ 4 50.3	22	11	14 46	+ 5 1.2
28	11	6 16	— 0 36.3	13	12	14 53	— 1 34.6
22	Neb.	6 28	+ 5 9.2	13	12	15 7	— 1 48.9
22	10	6 37	+ 5 7.6	22	12	15 9	+ 5 10.2
28	11	7 9	— 0 35.5	13	10½	15 27	— 1 44.9
13	10	7 22	1 40.4	13	12½	15 59	1 48.8
13	9	7 22	1 37.7	13	12½	16 9	— 1 44.4
28	10½	7 41	— 0 34.3	22	11½	16 13	+ 4 56.5
22	10½	8 33	+ 5 1.3*	13	11	16 42	— 1 42.7
28	11½	0 9 1	— 0 48.8	22	12	0 16 58	+ 5 1.0

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	12	23 30 59	— 1 34.2:	28	10	23 46 24	— 0 36.3
28	12	30 59	0 35.0	28	11	47 18	0 49.2
13	12	31 0	1 37.9	13	11½	49 11	1 35.2
13	11½	31 12	1 33.7	28	10½	49 16	0 40.4*
28	10½	31 14	0 48.4	13	11½	49 17	1 33.4
28	9	31 23	0 42.4	28	12	49 53	0 31.8
28	12	31 25	0 47.1	13	12	50 9	1 44.4
13	8½	31 46	1 48.5	13	12	50 18	1 44.2
28	11½	31 53	0 47.3	13	12½	50 34	1 42.7
13	8	32 3	1 34.2	28	11	50 39	0 30.6
13	8	32 18	1 34.8	13	12	50 41	1 44.4
28	10	32 32	0 46.6	13	11	50 42	1 42.0
13	12	32 43	1 37.5	13	11	51 10	1 41.9
28	11	32 50	0 49.1	28	11	51 30	0 36.4†
13	11	33 0	1 45.8	13	11½	51 57	1 46.3
13	9	33 13	1 34.2	13	12½	51 58	1 45.6
28	9	33 38	0 32.8	13	11	52 32	1 44.8
28	11½	33 45	0 51.6	28	9½	52 47	0 37.9
13	12½	35 18	1 48.6	13	12	52 53	1 52.5
28	12	36 9	0 33.8	28	11½	52 59	0 31.1
13	12½	36 21	1 35.9	13	12	53 11	1 30.8
13	10	39 12	1 49.1	28	11	53 55	0 35.9
13	10½	39 47	1 31.7	13	12	54 7	1 32.5
28	10	40 1	0 38.1*	28	12	54 7	0 38.2
28	11½	40 22	0 36.2	13	11½	54 13	1 39.0
28	11	40 45	0 38.2*	13	11½	54 13	1 49.2
13	12	41 7	1 36.6	13	12	55 20	1 45.5
13	12	41 57	1 42.8	28	12	55 26	0 44.9
28	11	42 28	0 38.2	13	10½	55 52	1 45.9
13	12	43 13	1 35.1	13	10	57 49	1 37.4
13	12½	43 21	1 45.9	28	11½	58 8	0 32.0
13	12	44 41	1 39.5	13	10½	58 21	1 36.9
28	12	44 56	0 46.4	13	12	58 29	1 48.7
28	11½	45 40	0 37.7	28	12	58 32	0 45.0
28	11½	23 45 47	— 0 47.0	13	11	23 59 2	— 1 33.0

* (4). † L. of 3.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11½	0 33 13	+ 4 53.8	22	11½	0 53 21	+ 5 2.4
28	10½	33 14	— 0 44.2	22	11½	53 28	4 58.4
22	12	33 15	+ 4 56.6	22	12½	53 51	5 4.6
22	10½	33 35	4 57.3	22	12½	54 2	5 3.1
22	11	34 1	+ 5 0.9:*	22	12½	54 2	5 5.9
28	9½	34 4	— 0 42.6	22	11	55 35	4 55.0
28	10	34 18	— 0 50.8	22	11	56 15	4 53.1
22	9½	34 31	+ 4 52.1	22	11½	57 35	4 54.4
22	11½	35 25	5 7.4	22	11	58 5	4 51.6
22	11	35 36	4 55.0	22	11	58 13	4 57.4
22	11	36 28	5 4.7	22	12½	59 12	5 6.3
22	12½	36 32	5 4.4:	22	10	59 29	4 58.9
22	12	38 11	4 58.6	22	12	0 59 57	4 50.9
22	9	38 35	4 56.4	22	12	1 0 15	4 54.8
22	10	39 58	5 5.9	22	12	0 21	4 55.6
22	12½	40 35	4 55.3	22	12	1 16	5 8.5
22	12	41 45	4 56.6	22	12	2 38	5 6.0
22	11	42 18	5 2.9	22	10	3 7	5 3.5
22	11½	42 25	4 56.3	22	12	4 25	4 54.6
22	12	42 44	4 53.0	22	10	4 44	4 58.7*
22	11	42 45	4 58.8	22	12½	5 48	4 50.4
22	12	43 31	4 58.4	22	11	7 29	5 2.9
22	12	43 41	4 58.6	22	11½	8 16	5 8.5
22	12	45 8	5 6.2	22	10½	8 39	5 4.9
22	12	45 13	4 54.1	22	11½	9 18	4 53.6
22	11½	46 16	4 51.4	22	12	9 25	4 57.8
22	11	46 45	5 2.0	22	12	9 27	4 54.1
22	12	47 9	5 3.9	22	12½	9 43	4 56.0
22	11½	48 29	4 53.0	22	11½	10 36	4 52.3†
22	11½	48 41	4 56.1	22	10	11 5	4 55.7
22	12	48 55	4 55.8	22	11½	11 39	4 59.0
22	11½	49 37	4 52.3	22	12	11 43	5 10.3
22	11	49 40	4 52.1	22	12	11 44	4 54.0
22	11	51 4	4 51.8	22	10	11 56	4 55.3
22	11½	0 52 17	+ 5 10.2	22	12	1 13 43	+ 4 47.9

* (4). † S. *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	11½	0 16 58	— 0 36.5	22	11½	0 24 57	+ 4 54.7
28	11½	17 11	0 35.0	28	11	25 1	— 0 45.9
13	11½	17 27	— 1 42.8	28	11½	25 27	— 0 31.2
22	12½	17 34	+ 4 51.1	22	12	25 31	+ 4 57.3
22	12	17 56	+ 4 57.5	13	10	25 54	— 1 30.9
13	9	18 4	— 1 34.9	28	12	26 17	0 47.5
22	11	18 5	+ 4 53.3	13	10	26 22	1 37.6
22	12	19 9	+ 5 7.9	28	10	27 8	0 43.7
13	11	19 11	— 1 47.1	13	11	27 16	1 42.0‡
28	12	19 32	0 51.3	28	12	27 26	0 43.8
13	11	19 42	1 36.9*	13	10	27 34	— 1 39.9
13	10½	19 53	1 32.2	22	11½	27 51	+ 4 51.1
13	12	20 3	1 33.1	13	–	28 45	— 1 34.0
28	12	20 18	0 47.2	22	12	29 14	+ 5 2.7
28	12	20 24	— 0 36.6	22	12	29 33	+ 4 54.5
22	11	20 43	+ 5 3.2	13	12	29 35	— 1 37.6
22	12½	20 46	+ 4 54.3	22	12	29 37	+ 4 53.4
13	11½	21 5	— 1 36.9	28	10½	29 37	— 0 51.4
22	12	21 6	+ 4 56.7	28	11½	29 41	0 51.1
13	11	21 13	— 1 47.3	28	12	29 48	— 0 42.0
13	11½	21 32	1 43.9	22	9	30 18	+ 5 1.3‡
13	9	21 38	1 37.2	22	12	30 46	+ 4 53.4
28	11	21 43	0 43.5	28	10	30 48	— 0 36.9
28	11	21 49	— 0 50.8	13	12	30 49	1 31.8
22	12½	22 7	+ 5 5.3	13	12	31 5	1 34.1
13	11½	22 23	— 1 28.6	28	11	31 8	0 38.2
13	12	22 25	— 1 31.5	13	10	31 45	— 1 33.2
22	11½	22 31	+ 4 55.9	22	12	31 45	+ 4 58.1
28	11½	22 52	— 0 40.7	13	12	31 48	— 1 36.2
13	11	23 37	— 1 46.7	13	10	31 51	1 48.4
22	10½	23 44	+ 5 7.7	13	9½	32 11	— 1 47.3
13	12½	23 46	— 1 47.9	22	11	32 14	+ 5 6.1
28	11½	23 47	0 38.5	13	12	32 15	— 1 35.8
13	10	24 34	— 1 47.2	28	11½	32 33	0 37.3
22	11	0 24 45	+ 5 1.9†	13	12	0 32 43	— 1 35.8

* L. of double. † N. p. of double. ‡ (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

605 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1852, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11	21 27 31	— 9 50.1	3	12	21 46 5	— 9 37.4
3	11	27 55	9 49.0	3	–	49 35	9 40.5 †
3	11	27 56	9 46.7	3	10	53 3	9 36.0
3	11½	28 46	9 38.1	3	11	53 10	9 33.8
3	11	29 6	9 37.7	3	9	53 39	9 35.7
3	11½	29 25	9 40.5	3	9	54 45	9 36.3
3	10½	31 8	9 32.2	3	11	55 6	9 39.7
3	11	31 21	9 44.1	3	11½	21 55 21	9 32.2 :
3	11½	32 8	9 48.1	3	11	22 58 53	1 21.8
3	11	32 17	9 47.2	3	10½	23 -0 39	1 22.3
3	11½	33 19	9 41.3	3	10½	1 13	1 24 8
3	12½	33 35	9 36.5	3	12	1 25	1 24.6
3	12½	33 37	9 31.1	3	11½	2 19	1 13.9
3	11½	33 39	9 35.8	3	11½	2 50	1 24.8
3	12	33 47	9 30.7	3	11	3 17	1 28.7
3	11	34 44	9 32.8	3	10	4 8	1 18.3
3	10½	34 49	9 38.5	3	11½	4 8	1 13.0
3	11	35 3	9 50.7	3	10½	4 12	1 17.1
3	11½	36 35	9 39.8	3	11	5 15	1 29.9
3	11	37 42	9 50.2	3	11½	5 22	1 27.2
3	12	38 25	9 32.1*	3	11½	5 48	1 28.5
3	11	38 34	9 33.3	3	12	6 8	1 27.0
3	11½	39 51	9 43.1	3	12½	6 47	1 13.3
3	11½	40 15	9 36.1	3	10	6 52	1 13.1
3	10	40 21	9 35.5	3	12½	7 16	1 25.3
3	10½	41 11	9 28.0	3	11	7 18	1 24.1
3	12	41 57	9 43.6	3	11	7 41	1 14.2
3	12	42 9	9 35.3	3	11½	8 15	1 26.3
3	11½	43 11	9 31.9	3	11	8 20	1 26.1
3	11½	21 44 16	— 9 37.7	3	11½	23 8 43	— 1 28.6

* S. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	23 9 15	— 1 16.7	3	10	23 29 29	— 1 16.0
3	11½	9 27	1 25.0	5	11	29 35	+ 0 23.3
3	9½	10 16	1 15.1	5	11	29 42	+ 0 12.8
3	11	10 16	1 19.1	3	11½	29 51	— 1 18.7
3	9½	10 19	1 9.1	3	9	30 8	— 1 29.6
3	12½	10 25	1 15.2	5	10½	30 12	+ 0 29 5
3	10	12 10	1 16.7	5	11½	30 19	0 28.1
3	12	12 15	1 16.5	5	9½	31 5	0 26.1
3	11½	12 27	1 17.3	5	10½	31 5	+ 0 10.1
3	10½	13 20	1 26.7	3	12	31 22	— 1 26.0
3	11½	13 23	1 29.7	3	12½	32 9	1 26.6
3	10½	14 39	1 10.3	3	9	32 10	— 1 23.4
3	11	14 40	1 16 6	5	9½	32 23	+ 0 12.4
3	8	14 40	1 13.6	5	11½	32 38	0 19.9
3	10½	15 20	1 19.4	5	10	32 55	+ 0 24.0
3	11½	16 7	1 23.7	3	8½	33 1	— 1 12.8
3	11	16 25	1 16.7	5	11½	33 38	+ 0 10.3
3	10½	17 6	1 25.1	3	12½	33 40	— 1 26.0
3	12	17 12	1 23.0	3	11½	33 49	1 28.8
3	11	17 38	1 20.2	3	11	34 4	— 1 21.4
3	11	17 39	1 15.8	5	12½	34 17	+ 0 14.8
3	10½	19 10	1 18.3	5	9	34 25	0 9.5
3	11½	19 22	1 24.4	5	10	34 36	0 15.7
3	11	19 22	1 29.5	5	10½	34 55	+ 0 16.0
3	10½	19 47	1 18.5	3	12	35 20	— 1 11.5
3	11	21 7	1 19.5	5	10½	35 48	+ 0 18.1
3	10	21 17	1 19.4:	5	12	35 58	0 16.1
3	12	22 5	1 20.2	5	10½	35 58	0 11.4
3	11½	23 44	1 28.0	5	11	36 15	+ 0 16.3
3	12	25 12	1 16.3	3	12	37 18	— 1 28.3
3	12	25 26	1 16.1	3	12	37 54	— 1 31.4
3	11	26 20	1 13.6	5	11	37 55	+ 0 16.5
3	11½	27 23	1 31.3	3	12	38 2	— 1 28.1
3	12½	28 58	1 10.9	5	11	38 22	+ 0 23.5
3	12	23 29 27	— 1 17.4	3	10	23 38 27	— 1 29.5

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
5	9½	23 38 30	+ 0 19.9
3	9½	38 33	— 1 25.3
5	9½	38 51	+ 0 15.3
3	11½	39 4	— 1 14.9
3	11	39 47	— 1 17.7
5	12½	40 1	+ 0 15.4
3	10½	40 2	— 1 25.2
3	11	40 33	1 24.7
3	11	40 47	— 1 19.1
5	11	40 58	+ 0 11.1
5	12½	42 22	+ 0 17.5
3	9	42 23	— 1 8.3 *
5	12½	42 37	+ 0 16.7
5	12	42 44	0 10.3
5	11	42 46	+ 0 14.5
3	10	42 47	— 1 20.9 †
3	11	42 57	— 1 8.7
5	11	43 11	+ 0 12.1
5	10	43 38	+ 0 15.0
3	12	43 48	— 1 21.5
3	11	43 54	1 8.7
3	12	44 18	— 1 20.8
5	10½	44 36	+ 0 20.8
3	11½	46 4	— 1 24.4
5	11	46 17	+ 0 10.5
3	9	46 54	— 1 25.3
3	10½	46 55	1 27.5
3	11	47 21	— 1 32.4
5	10½	47 28	+ 0 10.4
3	11	48 7	— 1 21.7
3	9½	48 10	1 23.7
3	12½	48 11	— 1 29.0
5	9	48 12	+ 0 17.2
3	10	48 45	— 1 25.4 ‡
5	10	23 48 52	+ 0 23.1
5	11	23 49 0	+ 0 12.7
3	12	49 6	— 1 21.5
3	11½	49 12	— 1 26.6
5	11½	50 19	+ 0 23.4
5	11	50 37	+ 0 16.0
3	11½	50 48	— 1 20.9
3	12	50 53	— 1 17.1
5	11½	51 33	+ 0 24.9
5	10½	51 45	+ 0 25.6
3	12	52 23	— 1 19.0
5	9	52 25	+ 0 29.8
5	10½	52 28	+ 0 27.4
3	12	52 35	— 1 15.9
3	12	52 43	1 12.4
3	12	52 44	— 1 20.2
5	11	54 12	+ 0 24 8
3	9½	54 36	— 1 11.6
5	11	54 41	+ 0 23.6
3	12	54 43	— 1 14.2
5	10½	55 1	+ 0 13.8
5	11½	55 28	0 13.9
5	12	55 45	0 10.5
5	11	55 47	+ 0 24.1
3	12	55 54	— 1 12.0
5	10	56 13	+ 0 28.8
3	12½	57 5	— 1 29.0
5	9	57 21	+ 0 12.3
5	12½	57 27	+ 0 16.5
3	12	57 33	— 1 11.5
5	12	58 17	+ 0 23.3
5	10½	58 28	0 24.1
5	12½	58 36	+ 0 24.7
3	11	58 38	— 1 30.6
5	12	58 44	+ 0 26.9
5	10	23 59 27	+ 0 12.5

* L. of double. † (4) ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10	0 44 37	+ 0 12.5	5	11½	1 1 19	+ 0 15.9:
5	9	44 46	0 16.8	5	10	1 23	0 12.1
5	12	44 51	0 12.0	5	12½	1 59	0 21.1
5	11	45 40	0 28.7	5	9	2 4	0 25.5
5	11	45 49	0 22.9	5	12½	2 12	0 27.2
5	9½	45 49	0 25.3	1	10	2 29	5 24.9
5	9	47 7	0 17.2	1	10	3 0	5 26.7
5	10	47 7	0 12.1	1	11	3 25	5 28.7
5	11	48 26	0 15.5	5	12½	3 33	0 13.2
5	9½	48 34	0 23.8	5	11	3 37	0 13.5
5	11	49 9	0 17.1	1	12	3 52	5 22.8
5	11	49 10	0 20.9*	1	11½	3 58	5 29.6
5	9½	49 27	0 18.2	1	10	4 10	5 23.7
5	9	50 22	0 21.5	5	11½	4 19	0 18.7
5	11	50 38	0 10.3	5	11½	4 46	0 21.9
5	10	51 14	0 17.2	5	8½	4 49	0 11.4
5	11½	51 58	0 12.1	5	12	4 52	0 20.8*
5	10	52 22	0 19.0	1	11½	5 16	5 26.3
5	9	52 39	0 28.6	1	10	5 25	5 29.6
5	10½	53 42	0 10.8	1	12	5 26	5 14.4
5	10	53 50	0 22.0	1	11	6 30	5 26.5
5	10	54 37	0 12.4	1	12½	6 37	5 23.2
5	10	55 24	0 18.9*	1	12	7 26	5 25.4
5	9	55 33	0 14.5	1	12	7 35	5 10.9
5	12	56 55	0 13.6	1	10½	7 54	5 13.7
5	9	56 55	0 28.9	1	10	8 42	5 13.5
5	12	57 52	0 28.6	1	12	9 31	5 14.2
5	9	57 57	0 23.8	1	12	10 4	5 29.5
5	10½	58 6	0 28.1	1	10	10 7	5 32.5
5	12½	58 50	0 12.4	1	12	10 36	5 9.2
5	12½	58 50	0 11.4	1	12	10 42	5 13.2
5	12	59 27	0 14.0	1	12	13 19	5 26.8
5	10	0 59 39	0 8.9	1	11½	13 22	5 33.5
5	12½	1 0 4	0 12.0	1	10½	13 55	5 27.3
5	11	1 0 12	+ 0 9.6	1	12	1 13 55	+ 5 29.7

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	9	0 15 55	+ 0 29.1	5	12	0 25 51	+ 0 12.6
3	11	16 10	— 1 14.0	5	10	26 23	0 15.9
5	12½	16 13	+ 0 20.6	5	9½	26 50	0 24.1
5	12½	17 5	+ 0 21.5	5	11	27 15	0 31.3
3	12	17 29	— 1 27.3	5	10½	28 8	0 26.4
5	12½	17 39	+ 0 28.4	5	10	28 16	0 31.5
5	9	17 45	0 32.3	5	10½	28 30	0 22.2
5	11½	17 53	+ 0 21.7*	5	10	29 32	0 31.3
3	12	18 1	— 1 27.9†	5	10½	30 17	0 26.4
3	12	18 39	1 26.9	5	10	30 23	0 19.9
3	12	18 46	1 31.9	5	11	30 51	0 21.0
3	11½	18 53	— 1 19.5	5	11	31 9	0 24.8
5	11	19 1	+ 0 21.2‡	5	11	32 21	0 16.4
5	12	19 7	0 15.4	5	11	35 13	0 29.0
5	11	19 8	0 12.2*	5	12½	36 1	0 29.3
5	10½	19 16	0 19.1	5	12	36 8	0 18.5
5	11	19 50	+ 0 19.9	5	12½	36 14	0 30.3
3	11	20 30	— 1 21.8	5	11½	37 18	0 27.7
3	11	20 31	1 23.5	5	11	37 30	0 26.5
3	10½	20 38	1 22.9	5	12	37 33	0 23.5
3	11½	20 38	— 1 11.5	5	11	37 54	0 25.9
5	11½	20 39	+ 0 24.1	5	10½	38 31	0 10.1
3	12	20 47	— 1 17.4	5	12	39 50	0 22.6
5	11	20 58	+ 0 12.1	5	12½	40 1	0 14.5
3	9	21 29	— 1 29.8	5	10½	40 34	0 20.5
5	12	21 57	+ 0 30.2	5	10½	40 48	0 11.4
5	12	22 4	0 23.3	5	9	41 3	0 11.6
5	10½	22 10	+ 0 29.0	5	10	41 44	0 10.6
3	10	22 42	— 1 19.6‡	5	10½	42 24	0 24.5
3	10	23 51	1 27.4	5	12	42 24	0 11.0
3	11½	24 32	— 1 29.3	5	9	42 31	0 23.5
5	11	24 43	+ 0 16.5	5	11½	42 57	0 25.8
5	11½	24 50	+ 0 25.1	5	12	43 32	0 10.7
3	12	25 24	— 1 23.5	5	12	43 45	0 9.6
3	11	0 25 38	— 1 22.1	5	12	0 43 54	+ 0 14.6

* L. of double. † *p.* of double. ‡ (4\.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10	0 44 37	+ 0 12.5	5	11½	1 1 19	+ 0 15.9:
5	9	44 46	0 16.8	5	10	1 23	0 12.1
5	12	44 51	0 12.0	5	12½	1 59	0 21.1
5	11	45 40	0 28.7	5	9	2 4	0 25.5
5	11	45 49	0 22.9	5	12½	2 12	0 27.2
5	9½	45 49	0 25.3	1	10	2 29	5 24.9
5	9	47 7	0 17.2	1	10	3 0	5 26.7
5	10	47 7	0 12.1	1	11	3 25	5 28.7
5	11	48 26	0 15.5	5	12½	3 33	0 13.2
5	9½	48 34	0 23.8	5	11	3 37	0 13.5
5	11	49 9	0 17.1	1	12	3 52	5 22.8
5	11	49 10	0 20.9*	1	11½	3 58	5 29.6
5	9½	49 27	0 18.2	1	10	4 10	5 23.7
5	9	50 22	0 21.5	5	11½	4 19	0 18.7
5	11	50 38	0 10.3	5	11½	4 46	0 21.9
5	10	51 14	0 17.2	5	8½	4 49	0 11.4
5	11½	51 58	0 12.1	5	12	4 52	0 20.8*
5	10	52 22	0 19.0	1	11½	5 16	5 26.3
5	9	52 39	0 28.6	1	10	5 25	5 29.6
5	10½	53 42	0 10.8	1	12	5 26	5 14.4
5	10	53 50	0 22.0	1	11	6 30	5 26.5
5	10	54 37	0 12.4	1	12½	6 37	5 23.2
5	10	55 24	0 18.9*	1	12	7 26	5 25.4
5	9	55 33	0 14.5	1	12	7 35	5 10.9
5	12	56 55	0 13.6	1	10½	7 54	5 13.7
5	9	56 55	0 28.9	1	10	8 42	5 13.5
5	12	57 52	0 28.6	1	12	9 31	5 14.2
5	9	57 57	0 23.8	1	12	10 4	5 29.5
5	10½	58 6	0 28.1	1	10	10 7	5 32.5
5	12½	58 50	0 12.4	1	12	10 36	5 9.2
5	12½	58 50	0 11.4	1	12	10 42	5 13.2
5	12	59 27	0 14.0	1	12	13 19	5 26.8
5	10	0 59 39	0 8.9	1	11½	13 22	5 33.5
5	12½	1 0 4	0 12.0	1	10½	13 55	5 27.3
5	11	1 0 12	+ 0 9.6	1	12	1 13 55	+ 5 29.7

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
1	11½	1 14 44	+ 5 16.5	29	11½	1 29 29	+12 51.8
1	12	15 36	5 15.0	29	10	30 2	12 51.2
1	12	16 30	5 16.0	29	11	30 9	12 55.1
1	12	17 19	5 23.7	29	10	30 16	13 2.0
1	11½	18 2	5 16.4*	1	10½	30 39	5 14.9
1	9	18 19	5 32.8†	1	9½	30 39	5 13.9
1	11	18 36	5 22.1	1	12	30 40	5 17.5
1	11	19 58	5 18.3	18	12½	30 43	8 6.9
1	12	20 5	5 25.6	18	10	30 48	8 5.8
1	10	21 25	5 12.5	29	11	30 50	12 58.6
1	11	22 8	5 12.9	29	11	31 5	13 2.2
18	11	23 21	8 1.9	18	11	31 27	7 53.7
18	10	23 35	8 4.9	18	11	32 0	8 2.6
18	11	23 47	8 0.1‡	29	11	32 17	12 53.8
1	11½	23 59	5 17.3	29	11	32 22	12 53.1
1	11	24 2	5 10.9	29	11½	32 27	13 2.1
18	10	25 1	8 4.9	29	11	32 30	12 51.7
1	11	25 7	5 14.6	18	10	32 39	7 52.8
18	10½	25 16	7 51.6	29	11	34 1	12 59.3
1	10	25 25	5 14.3	29	12	34 5	13 5.6
18	12	25 30	7 52.0	29	11	34 30	12 59.9
18	9	26 2	7 53.5	18	11	34 33	7 56.4
18	10½	26 47	8 4.4	18	11	34 37	7 55.5
18	12½	26 53	8 5.7	29	10½	35 24	13 7.5
1	12½	26 54	5 14.0	29	10½	35 48	13 3.7
1	11	27 34	5 25.6	18	9½	36 11	8 7.3
18	11½	27 46	7 52.7	18	11½	36 19	8 2.1
18	11½	27 59	8 5.6	18	12	36 26	8 5.5
1	11	28 18	5 30.4	29	10½	36 46	12 56.4
1	10	28 26	5 20.2	18	11	37 12	8 8.8
1	9	28 30	5 29.5	29	11½	37 33	13 9.0
1	12	28 59	5 23.2	18	10½	37 44	7 59.2
1	12	29 0	5 20.5	18	7	37 49	7 48.3
18	9	29 0	8 5.7	29	12	37 58	12 52.3
29	11½	1 29 26	+12 52.5	29	12	1 38 10	+12 58.0

* L. of double. † Minute may be 19. ‡ (4). L. of cluster.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10½	1 38 14	+ 7 49.8	29	10	1 53 4	+12 57.3
29	12	38 22	12 58.3	29	10	57 17	12 58.5
18	11	38 40	7 48.8	29	11½	57 36	12 56.4
29	11½	39 0	12 52.8	29	11	57 56	12 59.7*
18	11	39 42	8 3.3	29	10	1 58 48	13 0.0*
18	12½	39 51	8 2.4	29	10	2 1 43	12 53.2
29	10	39 53	13 4.6	29	11	5 15	12 52.0
29	10½	39 56	13 8.2	29	11½	6 4	12 56.2
18	12	40 0	8 4.3	29	11½	6 7	12 53.7
29	11	40 2	13 0.1*	29	11½	6 33	12 56.3
29	11½	40 30	12 57.2	29	11	7 40	13 5.1
29	12	41 43	13 5.3	29	11	7 56	13 3.9
29	12	41 55	13 4.0	18	10	21 37	12 32.3†
29	12	42 7	13 6.0	18	11½	22 30	12 36.9
29	12	42 30	13 8.0	18	10	24 0	12 43.5
18	11	43 11	8 4.6	18	10½	24 12	12 30.9
29	10½	43 28	12 56.8	18	11½	24 38	12 33.1
18	10	43 30	8 2.6	18	11½	25 22	12 38.3
29	11	43 54	12 57.4	18	9½	25 44	12 34.7
29	11	44 6	12 57.4	18	9½	25 59	12 35.5
29	10	44 6	13 5.5	18	12	26 42	12 48.0
18	9	44 14	8 7.4	18	12	26 45	12 49.3
29	11	44 15	12 52.9	18	10½	27 7	12 31.2
29	10½	44 50	12 52.8	18	12	28 1	12 32.9
29	10½	45 29	12 55.5	18	12½	28 16	12 33.5
29	10	45 34	12 58.7	18	11	28 38	12 36.9
29	11	48 1	12 58.8	18	11½	28 45	12 31.6
29	12	48 5	12 53.4	18	11	28 51	12 40.0
29	9	48 45	12 52.2	18	11½	28 56	12 37.5
29	10½	49 17	12 53.0	18	11	29 2	12 32.0
29	11	49 22	12 56.9	18	10½	29 33	12 39.9
29	10½	51 8	12 51.1	18	10½	29 52	12 42.0
29	11	51 21	12 58.5	18	11	30 24	12 43.8
29	10½	51 39	13 9.7	18	10	30 53	12 47.9
29	11½	1 52 40	+12 55.3	18	11	2 31 27	+12 41.4

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	9	2.31 35	+12 45.2	18	11	2 47 41	+12 35.2
18	12	31 47	12 46.7	18	10	48 55	12 41.9*
18	11	31 52	12 42.0	18	10	48 55	12 43.2
18	11	33 23	12 50.3	18	12	50 28	12 43.1
18	11	33 33	12 51.1	18	11	51 17	12 42.6
18	10	33 35	12 49.1	18	11	51 45	12 39.9
18	12	33 37	12 42.2	18	10	51 48	12 43.8
18	11½	34 58	12 45.7	18	11½	52 0	12 47.7
18	11	35 8	12 47.9	18	11	53 35	12 48.9
18	11½	36 5	12 46.4	18	11½	53 39	12 46.7
18	11½	36 17	12 44.0	18	9	53 43	12 38.6
18	11	36 21	12 46.3	18	11½	53 48	12 46.3
18	11½	37 37	12 36.3	18	11½	55 30	12 46.7
18	11	38 6	12 42.8	18	11	55 36	12 42.3
18	12	38 22	12 47.6	18	11	55 42	12 31.1
18	10½	39 23	12 36.6	18	10½	55 43	12 35.2
18	11½	39 56	12 41.8*	18	10½	56 48	12 33.4
18	11	40 53	12 48.8	18	10	56 56	12 46.8:†
18	10	41 44	12 33.1	18	10½	57 15	12 50.3
18	9	41 57	12 40.7	18	12	58 29	12 37.6
18	10	42 1	12 38.7*	18	11	58 42	12 34.3
18	10½	42 3	12 45.5	18	12½	58 59	12 36.8
18	10	43 26	12 49.0	18	9½	59 30	12 45.0
18	12	44 16	12 35.7	18	9½	2 59 37	12 34.7
18	11½	44 18	12 37.9	18	9½	3 1 29	12 33.8
18	11½	44 32	12 37.4†	18	10½	1 31	12 40.0*
18	10½	45 4	12 36.0	18	11	3 2 33	12 32.9
18	10½	2 46 43	+12 49.7				

* (4). † L. of double.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

819 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1852, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	11	23 29 46	+ 1 33.5	6	10	23 46 29	+ 1 32.9
6	12½	29 54	1 49.9	6	10½	46 30	1 29.6‖
6	12½	30 25	1 43.9	6	10½	48 53	1 42.4
6	11	30 49	1 33.8	6	10	49 37	1 49.7
6	11	30 55	1 34.0	6	10	51 40	1 39.2
6	12	31 41	1 36.1	6	12	52 19	1 32.7
6	11	32 22	1 32 1	6	10	53 22	1 35.3
6	12½	32 25	1 37.5	6	11	53 32	1 35.8
6	9	32 40	1 35.9	6	11	23 53 49	1 38.8
6	10½	32 48	1 49.1	15	12	0 28 21	6 47.0
6	10	32 54	1 46.9	15	11	29 27	6 40.2
6	10½	33 46	1 52.0	15	11	29 35	6 39.4
6	11	34 17	1 50.0	15	10½	30 7	6 31.3
6	10½	34 36	1 47.5	15	10	30 10	6 33.7
6	9½	35 1	1 33.1	15	10½	30 49	6 48.6
6	12½	35 8	1 32.5*	15	12	31 18	6 42.4
6	11	35 42	1 48.7	15	11½	33 43	6 33.2
6	10½	37 4	1 39.6†	15	12	34 12	6 51.4
6	11½	37 52	1 47.0	15	10	34 43	6 48.2
6	12	38 50	1 38.5	15	11	35 25	6 36.8
6	11½	38 55	1 37.2	15	11	35 25	6 48.8
6	9½	40 45	1 42.0‡	15	10½	35 26	6 29.8
6	11	40 46	1 35.9	15	11	38 0	6 28.6
6	9	41 22	1 36.4	15	10½	38 24	6 34.8
6	10	41 49	1 48.5	15	12	39 1	6 38.6
6	10	42 7	1 44.6	15	12	39 28	6 45.9
6	9½	42 59	1 48.5	15	11	40 22	6 49.0
6	11	43 45	1 34.9	15	12	40 36	6 37.5
6	11	43 46	1 35.4	15	12	40 45	6 36.2
6	10½	23 45 48	+ 1 34.3§	15	11½	0 40 48	+ 6 39.5

* *p.* of double. † (4). ‡ (4). L. of double. § 11th N. *p.* ‖ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10½	0 42 2	+ 6 32.0	8	11	1 3 39	+10 18.4
15	12	44 21	6 48.6	8	11½	4 1	10 24.4
15	10	46 3	6 27.7	8	10	5 21	10 13.1
15	12	46 7	6 38.1	8	10	5 25	10 17.9
15	10½	46 50	6 42.6	8	12	5 48	10 11.8
15	12	49 27	6 47.1	8	10	5 57	10 12.2
15	10½	49 48	6 39.0	8	12	7 23	10 24.8
15	11½	51 21	6 35.5	8	11	7 26	10 18.4
15	11½	52 14	6 35.4	8	11½	7 27	10 26.5
15	12	52 26	6 32.9	8	11½	7 29	10 26.2
15	10	53 1	6 39.6	8	11½	7 48	10 27.5
15	12	53 59	6 39.5	8	10½	8 33	10 11.4
15	11½	54 46	6 42.1 *	8	11	8 54	10 16.5
15	11½	55 21	6 38.4 *	8	12	9 8	10 16.0
15	11½	56 43	6 34.5	8	10	9 10	10 28.4
15	12	57 4	6 36.6	8	11	9 43	10 11.9
15	11½	57 7	6 33.9	8	12½	9 58	10 11.3†
15	11½	57 26	6 35.4	8	12	10 28	10 21.0
15	12	58 21	6 34.0	8	11½	11 20	10 23.9
15	11	59 2	6 47.3	8	11½	12 14	10 18.3:
8	11	59 43	10 10.6:	8	11½	13 5	10 11.4
8	11½	59 44	10 14.1	8	11½	13 25	10 11.4
15	10	59 51	6 43.4	8	11	13 28	10 12.2
8	10	0 59 52	10 13.9	8	12½	14 32	10 28.1
15	12	1 0 12	6 42.4	8	10½	15 11	10 22.1
15	12	0 16	6 42.1	8	11½	15 17	10 13.6
8	11	0 24	10 19.2	8	11	15 20	10 13.3
8	11	0 28	10 17.7:	8	11	15 35	10 12.6‡
8	11	0 32	10 18.9	8	10½	16 34	10 12.5
8	11	0 38	10 11.2	8	11	16 43	10 18.1
8	11	0 39	10 19.1	8	10½	18 11	10 11.3
15	10	1 34	6 47.7	8	11	18 35	10 14.2
8	11½	2 21	10 12.2	8	9	18 46	10 22.4
8	9½	2 36	10 8.9	8	11½	19 16	10 14.0
8	9½	1 2 51	+10 11.8	8	11½	1 19 22	+10 18.3

* (4). † 12th *f.* ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	11½	1 19 24	+10 24.9	8	11	1 39 21	+10 21.8
8	10½	20 30	10 24.0	8	9	40 1	10 15.7 :
8	10	20 55	10 21.2 *	8	10½	40 54	10 12.8
8	11	21 22	10 14.0	8	10	41 27	10 25.7
8	11	22 9	10 12.9	8	12½	41 37	10 25.4
8	11½	22 14	10 15.8	8	10	42 45	10 11.4
8	11½	22 17	10 13.2	8	11	46 25	10 11.3
8	11	23 11	10 25.2	8	11	46 39	10 14.2
8	10	24 34	10 21.8	8	11½	47 13	10 14.9
8	12	25 1	10 18.0	8	11	47 37	10 16.6
8	12	25 20	10 13.9	8	10	47 47	10 18.1
8	11½	25 27	10 21.2	8	12	48 4	10 13.0
8	12	28 34	10 14.3	8	10	49 39	10 12.0
8	10	29 7	10 21.4 *	8	11½	49 44	10 17.2
8	10	29 11	10 16.9	8	11½	50 57	10 16.0
8	11½	29 22	10 17.5	8	11½	51 0	10 15.9
8	10½	29 51	10 18.0 *	15	10½	57 6	15 14.8 †
8	9	30 37	10 8.3	15	11	1 57 21	15 12.5 ‡
8	11½	30 49	10 22.4	15	11	2 0 5	15 29.5
8	11	31 38	10 8.1	15	12	0 26	15 15.0
8	11	31 56	10 9.7	15	11	0 27	15 18.8
8	11½	32 30	10 11.6	15	10½	0 31	15 14.2
8	11½	32 44	10 9.1	15	12	0 51	15 17.6
8	9½	32 50	10 16.8	15	12	1 41	15 28.4
8	11	33 51	10 11.7	15	10	1 56	15 18.5
8	11	35 5	10 21.2	15	10	1 57	15 20.7
8	10½	35 22	10 13.8	15	10	4 45	15 17.1
8	10	36 17	10 10.4	15	11½	5 52	15 24.0
8	11½	36 25	10 17.2	15	11	5 59	15 24.2
8	10	36 37	10 27.7	15	11	6 30	15 15.2 §
8	11	37 19	10 15.7	15	12	8 9	15 15.9
8	10½	37 35	10 26.8	15	12½	8 14	15 16.4
8	10½	38 8	10 26.3	15	10	8 29	15 12.9
8	9½	39 0	10 11.2	15	10½	9 14	15 22.1
8	11	1 39 10	+10 17.7	15	11½	2 9 25	+15 23.5

* (4). † 12th *f.* ‡ 12th S. *f.* § A double *p.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	11½	2 10 3	+15 18.7	15	10½	2 31 10	+15 26.7
15	11	12 1	15 32.1	15	10	31 34	15 24.3
15	12	12 2	15 17.9	15	10	32 5	15 15.4
15	11	12 19	15 30.0	15	10	32 10	15 18.7
15	10½	12 37	15 26.7	15	12	34 8	15 16.0
15	12	13 51	15 27.4	15	12	34 9	15 14.9
15	10	14 31	15 19.8	15	11	35 7	15 27.4
15	11½	14 40	15 16.6	15	11	35 16	15 29.5
15	11	16 23	15 32.9	15	9	35 32	15 28.0
15	10½	17 4	15 30.2	15	11	35 33	15 21.7*
15	11	17 8	15 28.0	15	11	36 18	15 26.9‡
15	11½	18 3	15 17.9	15	11	37 2	15 19.3
15	12½	18 6	15 12.6	15	12	37 5	15 15.8
15	12	19 22	15 24.6	15	10	38 51	15 14.0‡
15	12	19 33	15 29.4	15	11	39 43	15 27.6
15	11	20 0	15 22.7*	15	9	40 46	15 29.7
15	10½	21 7	15 32.5	15	12	41 32	15 11.4
15	10	21 34	15 22.4	15	12	42 11	15 14.9
15	11	21 45	15 12.7	15	10	42 27	15 16.7
15	11	22 11	15 24.4	15	12	42 38	15 16.0
15	11	22 24	15 9.2†	15	12	42 47	15 18.9
15	11	23 8	15 11.2	15	12	43 51	15 14.6
15	11½	24 22	15 19.7*	15	11	43 57	15 13.7
15	11	24 30	15 13.6‡	15	11½	44 40	15 27.2
15	11	24 47	15 22.1*	15	12	45 37	15 24.7
15	11½	25 3	15 23.9	15	12½	45 59	15 24.7
15	12½	26 28	15 17.1	15	11½	46 3	15 24.3
15	10	26 45	15 11.6	15	10½	46 17	15 23.8
15	11	27 20	15 19.0:	15	11	46 58	15 29.4
15	11½	27 50	15 18.3	15	11	48 42	15 22.9
15	12	28 41	15 25.7	15	12	48 51	15 17.6
15	11½	29 7	15 23.7	15	12	48 54	15 18.3
15	10	29 16	15 30.5	15	11	49 41	15 19.2
15	11	30 6	15 12.4	15	10½	50 6	15 12.9
15	12	2 30 58	+15 17.3	15	12	2 50 18	+15 17.8

* (4). † A 12th *p*. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10	2 52 11	+15 18.6*	15	12	3 15 26	+15 31.3
15	10	52 22	15 18.6	15	10½	17 23	15 14.5
15	11	53 27	15 27.3	15	12	17 26	15 17.0
15	10½	53 50	15 24.2	15	12	17 31	15 15.6
15	10½	54 5	15 23.8	15	11	18 49	15 28.6§
15	11	55 6	15 23.3†	15	10	19 17	15 23.9
15	11½	57 16	15 19.0	15	11	20 7	15 17.0
15	11	57 27	15 15.5	15	12½	20 10	15 12.5
15	12½	58 40	15 14.4	15	11	20 44	15 18.9
15	9½	58 56	15 29.7	15	10½	22 22	15 16.4
15	10	2 59 29	15 29.6	15	12	22 36	15 14.2
15	11½	3 0 48	15 19.5	15	11	22 42	15 13.1
15	11½	0 56	15 28.0	15	10	23 6	15 30.0
15	11½	1 26	15 23.7	15	12	23 53	15 17.3
15	11	2 5	15 17.7	15	12	25 1	15 13.5
15	10½	2 45	15 20.1	15	12½	26 42	15 19.4*
15	11½	5 6	15 18.3	15	11½	27 49	15 14.4
15	10	5 27	15 15.4	15	10	28 21	15 22 1
15	10½	5 33	15 15.4	15	10	28 37	15 19.2*
15	12½	5 47	15 16.1	15	9	31 1	15 21.6*
15	9	7 6	15 20.9	15	12	31 22	15 20.3
15	10½	7 20	15 18.5	15	12	33 14	15 25.6
15	10	7 22	15 32.0	15	12	33 37	15 19.1
15	11	7 29	15 23.5	15	12	33 47	15 28.1
15	12½	9 6	15 17.9	15	9	3 33 59	15 19.9‖
15	12	10 0	15 19.7	15	11½	4 16 0	19 0.0
15	12	10 23	15 24.3	15	11	17 12	18 49.7
15	11	10 45	15 18.1	15	12	17 54	19 8.2
15	11	11 37	15 13.6:	15	11	18 13	19 9.8
15	10	11 40	15 24.3	15	9½	18 26	19 7.2
15	11	12 52	15 28.2‡	17	11	19 24	20 34.6:
15	11	13 56	15 28.8	15	11	20 50	18 57.7
15	12	14 3	15 30.4	15	11	20 50	19 0.2
15	10	14 34	15 15.1	17	10½	21 32	20 39.8*
15	10½	3 15 15	+15 18.4	17	11½	4 21 55	+20 36.5

* (4). † An 11th N. ‡ A 12th *p*. § L. of double. ‖ (4). A 12th *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	9	0 15 55	+ 0 29.1	5	12	0 25 51	+ 0 12.6
3	11	16 10	— 1 14.0	5	10	26 23	0 15.9
5	12½	16 13	+ 0 20.6	5	9½	26 50	0 24.1
5	12½	17 5	+ 0 21.5	5	11	27 15	0 31.3
3	12	17 29	— 1 27.3	5	10½	28 8	0 26.4
5	12½	17 39	+ 0 28.4	5	10	28 16	0 31.5
5	9	17 45	0 32.3	5	10½	28 30	0 22.2
5	11½	17 53	+ 0 21.7*	5	10	29 32	0 31.3
3	12	18 1	— 1 27.9†	5	10½	30 17	0 26.4
3	12	18 39	1 26.9	5	10	30 23	0 19.9
3	12	18 46	1 31.9	5	11	30 51	0 21.0
3	11½	18 53	— 1 19.5	5	11	31 9	0 24.8
5	11	19 1	+ 0 21.2‡	5	11	32 21	0 16.4
5	12	19 7	0 15.4	5	11	35 13	0 29.0
5	11	19 8	0 12.2*	5	12½	36 1	0 29.3
5	10½	19 16	0 19.1	5	12	36 8	0 18.5
5	11	19 50	+ 0 19.9	5	12½	36 14	0 30.3
3	11	20 30	— 1 21.8	5	11½	37 18	0 27.7
3	11	20 31	1 23.5	5	11	37 30	0 26.5
3	10½	20 38	1 22.9	5	12	37 33	0 23.5
3	11½	20 38	— 1 11.5	5	11	37 54	0 25.9
5	11½	20 39	+ 0 24.1	5	10½	38 31	0 10.1
3	12	20 47	— 1 17.4	5	12	39 50	0 22.6
5	11	20 58	+ 0 12.1	5	12½	40 1	0 14.5
3	9	21 29	— 1 29.8	5	10½	40 34	0 20.5
5	12	21 57	+ 0 30.2	5	10½	40 48	0 11.4
5	12	22 4	0 23.3	5	9	41 3	0 11.6
5	10½	22 10	+ 0 29.0	5	10	41 44	0 10.6
3	10	22 42	— 1 19.6‡	5	10½	42 24	0 24.5
3	10	23 51	1 27.4	5	12	42 24	0 11.0
3	11½	24 32	— 1 29.3	5	9	42 31	0 23.5
5	11	24 43	+ 0 16.5	5	11½	42 57	0 25.8
5	11½	24 50	+ 0 25.1	5	12	43 32	0 10.7
3	12	25 24	— 1 23.5	5	12	43 45	0 9.6
3	11	0 25 38	— 1 22.1	5	12	0 43 54	+ 0 14.6

* L. of double. † *p.* of double. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10	0 44 37	+ 0 12.5	5	11½	1 1 19	+ 0 15.9:
5	9	44 46	0 16.8	5	10	1 23	0 12.1
5	12	44 51	0 12.0	5	12½	1 59	0 21.1
5	11	45 40	0 28.7	5	9	2 4	0 25.5
5	11	45 49	0 22.9	5	12½	2 12	0 27.2
5	9½	45 49	0 25.3	1	10	2 29	5 24.9
5	9	47 7	0 17.2	1	10	3 0	5 26.7
5	10	47 7	0 12.1	1	11	3 25	5 28.7
5	11	48 26	0 15.5	5	12½	3 33	0 13.2
5	9½	48 34	0 23.8	5	11	3 37	0 13.5
5	11	49 9	0 17.1	1	12	3 52	5 22.8
5	11	49 10	0 20.9*	1	11½	3 58	5 29.6
5	9½	49 27	0 18.2	1	10	4 10	5 23.7
5	9	50 22	0 21.5	5	11½	4 19	0 18.7
5	11	50 38	0 10.3	5	11½	4 46	0 21.9
5	10	51 14	0 17.2	5	8½	4 49	0 11.4
5	11½	51 58	0 12.1	5	12	4 52	0 20.8*
5	10	52 22	0 19.0	1	11½	5 16	5 26.3
5	9	52 39	0 28.6	1	10	5 25	5 29.6
5	10½	53 42	0 10.8	1	12	5 26	5 14.4
5	10	53 50	0 22.0	1	11	6 30	5 26.5
5	10	54 37	0 12.4	1	12½	6 37	5 23.2
5	10	55 24	0 18.9*	1	12	7 26	5 25.4
5	9	55 33	0 14.5	1	12	7 35	5 10.9
5	12	56 55	0 13.6	1	10½	7 54	5 13.7
5	9	56 55	0 28.9	1	10	8 42	5 13.5
5	12	57 52	0 28.6	1	12	9 31	5 14.2
5	9	57 57	0 23.8	1	12	10 4	5 29.5
5	10½	58 6	0 28.1	1	10	10 7	5 32.5
5	12½	58 50	0 12.4	1	12	10 36	5 9.2
5	12½	58 50	0 11.4	1	12	10 42	5 13.2
5	12	59 27	0 14.0	1	12	13 19	5 26.8
5	10	0 59 39	0 8.9	1	11½	13 22	5 33.5
5	12½	1 0 4	0 17.0	1	10½	13 55	5 27.3
5	11	1 0 12	+ 0 9.6	1	12	1 13 55	+ 5 29.7

Days. Obs.	Mag.	α.	δ.	Days Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	12	4 22 26	+19 0.0	15	11½	4 31 28	+19 0.3
17	10½	22 45	20 50.3	15	11	32 2	18 58.1
17	12½	23 8	20 33.0	17	8½	32 29	20 36.9
17	10½	23 21	20 32.5	15	11	32 35	18 55.2
15	11	23 26	18 57.7	17	12	33 0	20 38.6
15	9½	23 38	18 58.8	17	11½	33 4	20 36.7
17	12	23 59	20 37.8	17	11	33 9	20 33.6
15	11	24 18	19 3.0*	15	11	33 32	18 58.6
17	12	24 39	20 47.8	15	11	33 39	18 55.9†
17	10	24 44	20 49.8	15	11	33 52	18 56.0
15	10½	24 53	19 5.0	17	12½	34 18	20 45.7
17	12	25 17	20 34.0	17	12½	34 21	20 46.7
15	10½	25 40	19 3.6	15	10	35 7	18 57.4
17	11	26 8	20 44.6	17	12	35 15	20 34.1
17	12½	26 42	20 33.8	17	9	35 30	20 39.5
15	11	26 53	18 53.1	17	12½	35 32	20 35.4
17	12	27 19	20 35.3	15	11	35 33	19 0.5
17	12	27 34	20 34.4	17	10	36 4	20 35.2
17	12½	27 46	20 37.9	17	11	36 44	20 47.6
15	12	27 49	19 4.7	17	11½	36 52	20 29.2
17	9	28 4	20 44.2	15	11½	37 26	18 55.7‡
15	9½	28 7	18 58.8	15	9½	37 30	19 0.4
17	11	28 37	20 39.4	17	10	37 54	20 48.9
15	11	28 43	19 52.6	17	12½	38 8	20 32.8
15	11	28 49	18 56.2	17	10	38 15	20 36.4
17	11½	29 11	20 45.5	15	11	38 32	19 0.5
17	11	29 11	20 47.9	15	11	38 36	19 0.2
15	11½	29 19	18 57.1	17	12	38 37	20 34.9
15	12	29 25	18 54.1	15	10½	38 48	19 10.6
15	11½	30 5	18 50.1	15	9	38 56	19 2.8*
17	11½	30 16	20 29.5	17	12½	39 37	20 49.7
17	11½	30 17	20 46.3	17	12½	39 45	20 49.7
15	11½	30 33	19 11.3	15	11½	40 33	18 59.1
15	12	31 24	18 58.6	15	10½	40 34	18 59.6
15	10½	4 31 25	+18 54.4	15	12	4 40 37	+18 53.1

* (4). † An 11th N. ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	12	4 40 38	+18 56.3	17	12	4 48 35	+20 33.3
17	11	40 56	20 36.7	17	12	48 45	20 47.0
15	10½	41 11	19 5.9	15	10	49 14	19 9.1
17	12	41 17	20 36.6	17	11	49 38	20 38.3
17	12	41 23	20 37.6	17	12½	49 48	20 38.1
17	9½	41 26	20 49.2	17	12	49 59	20 45.3†
15	11	41 44	18 57.8	15	11½	50 1	19 12.3
17	12½	41 52	20 43 2	17	12	50 12	20 36.5
17	12	42 5	20 40.3	17	12	50 17	20 35.1
17	10½	42 17	20 39.0	17	11	51 6	20 35.2
15	12	42 22	18 56.5	15	10½	51 8	18 58.1
17	12	42 34	20 43.3	17	12½	51 11	20 35.4
15	11	42 39	18 58.7*	15	12	51 14	18 56.2
15	12	42 44	18 57.7	17	11½	51 27	20 36.4
15	11	43 5	18 58.6	15	11	51 30	18 58.6*
15	9	43 17	18 58.1	15	11	51 31	18 57.0
17	10½	43 51	20 34.1	15	11	52 29	19 8.8
17	11½	44 38	20 36.2	17	11	52 35	20 47.0
15	11½	44 43	19 3.6	15	11	52 39	18 53.1
15	12	44 57	19 6.8	15	8½	53 48	19 9.8
17	11½	44 57	20 34.9	17	11	53 48	20 37.3
15	12	45 6	19 4.0	15	11½	53 51	19 5.3‡
15	10	45 7	19 9.5	15	10	54 30	19 9.3
17	9½	45 15	20 43.9	17	12½	54 47	20 48.5
15	10½	45 49	19 10.8	17	10½	55 12	20 36.7
17	9	45 50	20 51.0	17	11	55 12	20 36.5
17	10½	46 14	20 52.6	15	10	55 22	18 52.7
15	12	47 1	19 4.4	15	12	56 6	18 55.5
17	12	47 20	20 33.1	17	10	56 23	20 39.4
15	11	47 26	18 58.5	15	12	56 25	18 56.2
17	12	47 36	20 38.7	17	12	56 33	20 46.5
15	11	47 41	19 5.1	15	10	56 44	18 58.0
17	11½	47 52	20 32.6	17	10½	56 47	20 44.5
17	10½	48 32	20 46.3	17	12½	56 53	20 45.3
15	11½	4 48 35	+19 9.6	15	10½	4 57 2	+19 5.1

* L. of double. † Double. ‡ A Double *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	11	4 57 52	+20 48.2	17	10	5 10 36	+20 42.6*
17	11	57 56	20 48.2	17	10	10 56	20 37.9
17	12½	58 8	20 48.4	17	8	11 42	20 40.2
15	11	58 23	19 6.7	17	11	12 20	20 36.7
15	9	58 25	19 8.8	17	11	12 25	20 37.5
17	12	58 28	20 46.9	17	9	12 55	20 46.8
17	11	58 36	20 32.7	17	9½	13 15	20 47.0
17	11	58 54	20 37.7	17	9½	13 44	20 45.9
17	12	59 3	20 36.8	17	12	14 1	20 34.5
15	9	59 11	18 50.3	17	12	14 12	20 34.1
15	12	59 32	19 10.3	17	10	14 40	20 32.0
17	12½	4 59 48	20 33.5	17	11	15 2	20 32.5
15	11	5 0 53	18 57.7	17	11	15 4	20 32.8
17	10	0 55	20 46.8	17	9	15 48	20 44.2
15	11	1 2	18 58.1	17	12	15 52	20 48.7
15	10½	1 8	19 10.3	17	11½	15 53	20 39.4
17	11	1 10	20 49.9	17	11½	15 55	20 51.1
17	12	1 46	20 43.6	17	12½	17 14	20 33.5
17	12	2 39	20 47.1	17	11	17 35	20 35.6
15	9½	2 42	19 7.1	17	11	18 7	20 39.6
15	10	2 50	19 6.4	17	12	18 8	20 33.7
15	10	3 8	19 11.4	17	12	18 9	20 38.7
17	11½	3 14	20 45.7	17	11½	18 35	20 33.2
17	12	4 39	20 46.3	17	10	19 21	20 49.7
17	12	4 40	20 49.0	17	11½	19 55	20 43.5
17	11	5 30	20 49.9	17	11	21 8	20 47.3
17	9	5 56	20 42.0*	17	11	21 17	20 49.6
17	11	6 3	20 46.2:	17	11½	21 23	20 47.8
17	11	6 5	20 34.9†	17	11½	22 56	20 49.4‡
17	11½	6 18	20 33.9:	17	11	23 22	20 49.5
17	12½	7 36	20 38.1	17	11½	24 42	20 48.8
17	11	8 6	20 37.5	17	11	24 47	20 33.9
17	11½	8 16	20 30.6	17	11½	25 32	20 34.0
17	10½	9 49	20 40.5	17	10	26 24	20 48.3
17	12	5 10 9	+20 39.9	17	9½	5 26 34	+20 42.7

* (4). † L. of double. ‡ Triple.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	12	5 26 34	+20 43.9	17	9	5 43 27	+20 39.1
17	12	26 50	20 48.0	17	11	43 27	20 35.7
17	11	28 5	20 39.7	17	10½	45 54	20 43.5
17	8	28 8	20 38.7	17	10½	46 8	20 45.8
17	11½	28 21	20 37.3	17	9½	46 26	20 44.0
17	11	28 31	20 38.3	17	11	47 23	20 35.2
17	12½	28 47	20 35.8	17	11½	47 24	20 32.6
17	10	29 31	20 34.2	17	10	47 26	20 34.2 §
17	11½	30 21	20 43.1 *	17	10½	47 57	20 51.6
17	11½	30 32	20 48.3 †	17	10	48 24	20 33.3
17	10½	30 37	20 42.5	17	11	48 49	20 34.5
17	11	32 2	20 48.3	17	12	49 3	20 34.8
17	11	32 12	20 43.0	17	11½	49 7	20 36.2
17	11½	32 16	20 42.9	17	9	49 57	20 39.8 : :
17	11	32 50	20 38.2	17	10½	50 10	20 37.3
17	10	33 29	20 46.6	17	10½	50 22	20 37.7 :
17	9	33 29	20 31.9	17	10	50 29	20 38.9
17	10	34 39	20 37.1	17	11	50 49	20 39.3
17	12½	34 52	20 37.8	17	10	51 49	20 40.8
17	11	34 52	20 36.6	17	12	51 52	20 49.0
17	12	34 54	20 38.5	17	12	52 4	20 46.8
17	10	35 12	20 46.6	17	10½	52 18	20 46.3
17	11	36 2	20 50.4	17	11	52 46	20 45.7
17	11	36 7	20 50.1	17	11	53 5	20 30.7
17	8	36 43	20 37.4 ‡	17	11	53 41	20 49.3 ‖
17	11	37 19	20 39.8	17	10	53 47	20 47.8
17	11	37 22	20 37.6	17	11	54 14	20 37.0 §
17	11½	37 45	20 45.6	17	9	55 26	20 32.0
17	10	38 18	20 34.6	17	11½	55 40	20 43.7 ¶
17	10½	39 40	20 33.9	17	11½	55 44	20 42.8
17	11	40 38	20 37.3	17	12	55 49	20 32.8
17	10	40 52	20 49.4	17	10½	56 38	20 43.7
17	11½	41 0	20 44.1	17	11	56 48	20 39.4
17	9½	41 0	20 36.5	17	10½	56 48	20 36.3
17	11½	5 42 4	+20 37.3	17	10½	5 56 51	+20 29.9

* (4). † *f.* of double. ‡ *v.* red. § L. of double. ‖ Double. ¶ S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	10	5 56 56	+20 37.6	17	9½	6 11 22	+20 36.1
17	10	58 5	20 39.3	17	12	11 31	20 35.8
17	11½	58 26	20 40.4	17	10	12 36	20 36.8
17	11	58 39	20 47.2	17	12	13 33	20 35.0
17	11	5 59 55	20 34.2	17	12	13 37	20 34.6
17	12	6 0 12	20 42.7	17	11	14 4	20 33.7
17	11½	0 42	20 40.4	17	9½	14 5	20 39.0
17	11½	0 50	20 43.5	17	11	14 58	20 42.8†
17	10½	0 54	20 38.2	17	10½	15 35	20 35.7
17	11	0 58	20 33.7*	17	10	15 36	20 33.8:
17	10½	0 59	20 39.6	17	9	16 35	20 35.7
17	11	1 12	20 38.6	17	10	16 56	20 50.9
17	9	2 3	20 35.7	17	10	17 17	20 33.2
17	9	2 19	20 35.3	17	11	17 39	20 32.9
17	11	2 54	20 35.0	17	11	17 57	20 35.0
17	10½	3 19	20 45.6	17	10½	18 12	20 34.9
17	11	3 23	20 45.5	17	11½	18 52	20 43.8
17	10½	3 37	20 46.0	17	11	19 9	20 34.5
17	11	4 37	20 48.8	17	12½	19 17	20 34.6
17	12	4 39	20 48.8	17	9½	19 45	20 36.5
17	10	5 43	20 37.7	17	10	19 54	20 33.0:
17	10½	5 49	20 47.5	17	11½	20 28	20 46.0:
17	10½	6 0	20 34.9	17	11	20 58	20 49.0
17	11	6 35	20 32.3	17	11½	21 27	20 49.2
17	11	6 51	20 38.3	17	9	21 36	20 50.5
17	9	7 4	20 33.0	17	11	22 10	20 49.4
17	11	7 20	20 40.8	17	11	22 50	20 43.7†
17	11	7 26	20 40.1†	17	10	22 50	20 47.1
17	10	7 30	20 36.1	17	11½	23 6	20 45.6
17	11	8 5	20 38.2	17	11	24 2	20 34.4
17	10½	9 5	20 47.5	17	10	24 12	20 36.9
17	10½	9 13	20 49.0	17	11	24 25	20 35.2
17	10½	9 24	20 46.9	17	11	24 41	20 48.2‡
17	10½	9 45	20 43.5	17	10½	25 13	20 47.1
17	10½	6 9 50	+20 34.4	17	10	6 25 16	+20 45.6

* N. *p.* of double. † (4). ‡ S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	12	6 25 26	+20 46.6	17	11	7 40 38	+23 7.2
17	11	26 12	20 32.6	17	11	42 2	23 8.4
17	9½	26 30	20 33.8	17	9	42 31	22 59.2
17	10½	27 47	20 49.3*	17	11½	42 39	23 4.2
17	11	27 54	20 49.7*	17	10	42 45	22 49.7
17	11	28 32	20 35.6•	17	12	43 59	23 4.3
17	10	28 45	20 40.0	17	10½	44 5	22 56.3
17	10½	29 7	20 38.6	17	12	44 14	22 59.6
17	10½	29 45	20 41.4	17	10	44 46	23 4.4
17	11½	30 34	20 35.6	17	9½	44 52	23 2.4
17	11	30 40	20 34.1	17	10	45 26	23 4.6
17	10	30 41	20 39.3	17	10	45 31	23 6.1
17	8	31 4	20 36.9	17	11	46 48	22 56.7
17	11½	31 46	20 47.0	17	11	46 50	22 56.6
17	11	32 22	20 36.1	17	11	47 24	23 11.5
17	11	33 3	20 51.1	17	10½	47 48	23 5.7
17	10	33 56	20 38.7	17	11	48 12	22 55.8
17	11½	34 16	20 34.8†	17	11	48 39	22 57.2
17	11	34 32	20 38.0†	17	11	48 55	23 3.2
17	10½	35 26	20 51.2	17	11	48 58	23 7.8
17	11	35 45	20 50.3‡	17	11	49 44	23 3.7
17	11	36 20	20 51.2	17	10	50 31	22 57.9
17	12	36 57	20 34.7	17	11	51 35	22 53.8
17	10	37 22	20 35.0	17	11	51 53	22 58.4
17	11	38 21	20 38.4	17	11½	52 0	22 54.4
17	10½	38 48	20 34.5	17	11	52 22	22 54.7
17	11½	39 7	20 40.3	17	11	52 45	22 51.9
17	11½	39 53	20 35.2	17	12	53 12	22 52.5
17	11	40 6	20 37.7	17	10½	53 46	23 3.3*
17	12	41 12	20 33.7	17	12	53 59	23 4.3
17	12½	41 17	20 34.9	17	9	54 27	22 58.6
17	12	41 38	20 34.3	17	10	55 21	23 8.3
17	11	42 23	20 50.1	17	11½	55 38	22 56.6
17	12	42 31	20 48.7	17	11	55 40	22 52.2
17	10	6 42 53	+20 46.6	17	11	7 56 23	+23 10.5

• L. of double. † L. of 3. ‡ L. of 4.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	11½	7 57 3	+23 6.4	17	11	8 17 30	+23 4.0
17	10	57 43	23 0.2	17	11	18 24	23 14.3
17	10	57 46	22 57.7	17	10	18 25	23 7.4
17	11½	59 1	23 2.8	17	10½	19 6	23 7.8
17	11½	59 8	22 52.7	17	11	19 38	22 57.2
17	11	7 59 18	23 3.1	17	11	19 44	22 53.8
17	10½	8 0 45	22 50.0	17	11	20 39	23 2.3
17	12	1 42	23 8.4	17	11	22 19	23 10.4
17	10	1 46	23 6.8	17	10½	22 42	22 54.8
17	10	2 56	22 59.1	17	10½	23 5	22 53.8
17	10½	2 59	23 5.3	17	9½	23 44	22 54.9
17	10½	3 42	23 4.3	17	11½	24 18	22 56.0
17	12	4 52	22 56.5	17	12	25 16	23 7.5
17	10	5 14	22 57.8	17	10	25 17	22 58.0
17	9½	5 32	23 5.2	17	9½	25 32	23 0.9†
17	12	6 59	23 5.6	17	10½	26 42	22 52.5
17	10	7 32	23 2.7	17	12	27 10	22 55.4
17	9	7 39	23 2.3	17	10	27 11	22 59.9
17	11	8 50	22 51.4	17	9½	28 28	23 4.0
17	9½	9 35	22 53.4	17	12	28 59	22 54.5
17	12	10 36	22 55.2	17	11	29 27	23 2.8
17	11½	11 11	22 54.4*	17	11	29 30	22 54.8
17	11½	12 1	23 6.4	17	11	29 59	23 9.7
17	10½	12 2	23 9.2	17	11	31 29	22 55.4
17	11	12 16	23 7.7	17	11½	32 26	22 53.3
17	11	14 17	23 3.7	17	11	33 15	22 59.0
17	12	14 54	22 54.8	17	11½	33 30	22 56.0
17	10½	16 2	22 54.0	17	9	34 23	22 56.8
17	10½	16 38	23 13.2	17	9	8 34 35	+23 3.7
17	10½	8 17 14	+23 12.1				

* Double. † (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

651 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10½	2 25 50	+16 1.3	15	10	2 40 10	+16 5.6
15	12½	26 5	15 51.9	15	11½	40 19	16 11.8
15	12	26 19	15 54.7	15	12	40 27	16 5.0
15	10½	26 59	15 51.5	15	11	41 9	16 1.7*
15	11½	28 4	15 56.7	15	12	41 18	16 1.3
15	10½	28 14	15 53.4	15	12	41 24	16 1.2
15	10	29 21	15 52.9	15	11	41 36	15 52.8
15	12	29 35	16 4.9	15	12½	42 50	15 52.2
15	12	29 41	16 5.4	15	12	44 14	15 54.6
15	12	29 45	16 4.5	15	12	44 30	15 57.6
15	10½	30 45	15 57.2	15	11	44 38	15 52.5
15	11	30 59	15 55.2	15	10½	44 58	16 1.7
15	11½	31 4	16 7.6	15	12	45 52	16 4.2
15	9	32 25	15 57.0	15	11½	46 27	16 4.5
15	11½	32 44	16 2.3	15	12½	46 29	16 5.4
15	11	32 47	16 6.6	15	11½	47 4	16 2.1
15	11	32 51	15 53.1	4	12	47 11	16 10.2
15	11	32 52	15 53.8	4	12½	47 13	16 15.8
15	11½	33 55	15 54.0	4	12½	47 43	16 12.1
15	11½	34 9	15 56.6	4	9	48 6	16 14.0
15	11½	34 16	15 51.6	15	11	48 24	15 44.9
15	11	34 24	15 55.3	15	11½	48 28	15 58.8
15	10½	34 52	16 5.1	4	12	48 38	16 24.5
15	10	35 25	16 0.9*	15	12	48 52	15 52.1
15	12	36 34	15 58.8	4	10½	49 10	16 15.7
15	11	37 20	16 1.6	15	12	49 21	15 57.0
15	11½	37 45	15 58.9*	4	10	49 30	16 21.7
15	11	38 2	15 59.7	4	11½	50 22	16 21.9
15	11½	38 14	16 1.6	15	11½	50 41	15 52.6
15	10	2 39 44	+16 6.3	15	11	2 50 43	+16 7.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	11	2 50 50	+15 59.3*	15	12	2 59 18	+16 2.1
4	10	51 4	16 27.9	15	11½	59 23	16 6.8
4	12	51 13	16 23.6	15	11½	2 59 35	16 9.1
4	11	51 15	16 21.7	4	11½	3 0 13	16 15.4
15	11	51 37	15 57.6	26	11	0.34	21 38.5
4	10½	51 40	16 18.0	26	11	0 43	21 38.8*
4	12	52 18	16 20.8	15	12½	0 44	15 53.5
4	11	53 3	16 19.9*	15	11½	1 9	15 57.2
15	11	53 5	15 51.9	4	11	1 22	16 13.7
15	11	53 7	15 58.5*	4	11½	1 37	16 14.3
15	11½	54 3	15 54.1	26	10½	1 40	21 36.1
4	12	54 7	16 18.1	26	11	2 10	21 36.3
4	10½	54 23	16 8.7	15	11	2 21	16 6.4
15	12½	54 38	15 52.5	4	10	2 55	16 13.2
15	11	54 43	15 55.3	15	12½	2 55	15 57.6
4	10	54 49	16 25.3	26	12	3 17	21 41.3
4	10½	54 52	16 13.3	26	11½	3 37	21 41.7
4	11	55 18	16 25.8	15	11½	3 48	15 55.7
4	11	55 20	16 27.7	4	12½	3 58	16 21.6
15	12½	55 25	16 11.7	26	12½	4 4	21 42.5
15	12	55 35	15 58.6	15	12½	4 34	16 4.2
4	11½	55 48	16 27.5	26	11	4 52	21 29.2
4	11	56 31	16 24.0	4	10	4 58	16 27.6†
4	11½	56 33	16 16.6	15	11½	5 7	16 4.6
4	10	56 59	16 24.0	4	12	5 21	16 24.7
4	11½	57 3	16 25.4	4	12	5 28	16 18.1
15	12	57 4	16 5.2	26	12	5 30	21 34.4
15	12½	57 25	15 58.6	26	12½	5 50	21 35.4
15	12½	57 31	15 58.1	15	10	6 20	16 2.1*
15	12½	57 33	15 56.8	4	11	6 28	16 26.9
15	10	57 42	15 59.0*	26	12	6 36	21 32.4
4	12	58 36	16 25.2	4	9½	6 40	16 30.3
4	12	58 43	16 20.2	26	12	6 51	21 35.1
4	10½	58 54	16 20.6	26	11	6 55	21 41.8
15	12½	2 59 13	+16 6.5	15	12	3 6 58	+15 54.1

*(4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11½	3 7 2	+21 28.9	15	11	3 14 12	+15 55.0
4	10½	7 19	16 12.5	4	11	14 35	16 23.7
4	10½	7 45	16 15.2	15	12	15 22	16 1.5
15	12½	7 47	16 6.2	26	12	15 43	21 31.7
4	11½	7 55	16 20.3 *	4	11	16 1	16 11.2
26	12	8 15	21 42.9	26	11½	16 59	21 38.6 *
15	10½	8 39	15 59.1 *	26	10	17 35	21 33.5
4	10½	8 56	16 17.5	28	10	17 50	16 37.2
4	11½	8 58	16 13.0	28	11½	17 56	16 42.9 *
15	11½	9 1	15 51.4	26	10½	18 45	21 35.2
26	11	9 15	21 28.5	4	12	19 0	16 30.8
26	12	9 39	21 49.2	26	12	19 16	21 30.5
15	11	9 50	16 1.8	28	11	19 29	16 45.4
26	12½	9 53	21 34.0	4	11½	19 49	16 23.0
26	12	10 4	21 49.0	4	12	20 3	16 24.4
4	11	10 19	16 12.4	15	11	20 10	15 54.1
26	11	10 21	21 47.1	26	11	20 20	21 38.1
4	10½	10 37	16 21.4	4	11½	20 32	16 16.1
15	12½	10 41	16 3.5	4	12	20 32	16 15.0
4	11½	10 55	16 21.2	26	12	20 33	21 32.3
4	11½	11 8	16 25.1	28	10	20 38	16 47.3
26	12	11 38	21 45.5	15	12	20 56	15 54.7
26	11	11 48	21 33.2	28	12	21 2	16 46.1
15	11	11 54	15 52.5	28	11	21 6	16 44.3
4	12	12 2	16 11.3	28	10½	21 21	16 33.2
4	12	12 5	16 12.0	4	11½	21 37	16 27.2
26	12	12 58	21 38.8	4	11	22 7	16 26.9
26	12½	13 4	21 35.2	4	12	22 15	16 22.4
4	9½	13 10	16 22.4	28	12	22 21	16 44.0
26	12½	13 14	21 35.2	15	9½	22 28	15 57.1
26	12	13 46	21 38.3	28	11½	22 35	16 45.8
4	11	13 59	16 27.8	4	11	22 49	16 26.5
4	9	14 0	16 22.9	26	12	22 57	21 35.4 †
15	11	14 4	16 0.3	15	11½	23 8	16 3.6
4	11½	3 14 12	+16 26.1	26	10½	3 23 8	+21 34.0

* (4). † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	9	3 23 10	+16 44.4	28	11	3 28 13	+16 47.0
4	12	23 32	16 10.3	28	10	28 22	16 43.4
28	9½	23 40	16 39.2	15	12½	28 29	16 5.2
4	12	23 42	16 12.5	15	10	28 34	16 2.7
28	10½	23 48	16 40.5	4	12	28 37	16 27.7
28	9½	24 7	16 45.6	26	11	28 57	21 49.7
26	11	24 12	21 36.1	4	12½	28 59	16 24.8
26	11	24 21	21 37.4	28	10	29 11	16 43.9
28	12	24 24	16 46.3	4	12	29 13	16 23.5
4	11½	24 35	16 21.7	28	10	29 15	16 42.2
15	12	24 42	16 5.6	4	11	29 35	16 22.2
4	11	24 46	16 24.3	28	11½	29 38	16 35.4
26	10½	24 48	21 31.2	28	11	29 43	16 40.0
4	12½	25 0	16 22.2	15	12	29 46	16 6.9
26	11	25 6	21 39.4*	4	10	29 51	16 17.3*
4	10½	25 16	16 13.9	15	11½	29 52	15 57.3
4	10½	25 24	16 20.7	26	12	29 53	21 37.2
28	11½	25 24	16 47.3	28	11	29 56	16 37.7
28	10	25 40	16 49.5	15	12	30 3	15 56.1
28	11	26 3	16 42.8	15	10½	30 6	15 53.0
15	10	26 21	15 59.0*	26	11½	30 24	21 43.6†
28	11	26 30	16 46.8	4	10½	30 43	16 14.4
4	11½	26 31	16 26.9	28	10½	30 44	16 32.9:
15	11	26 34	16 10.0	28	9½	30 51	16 43.1:
28	10½	26 34	16 43.2	26	11	31 9	21 42.0
28	11½	26 37	16 43.9	28	11	31 9	16 37.7:
15	11½	26 38	16 6.8	4	11½	31 20	16 25.9
4	11½	26 44	16 22.4	4	12	31 39	16 24.3
4	11	26 51	16 12.8	15	12	31 41	15 54.1
26	12	26 53	21 45.5	28	11	31 41	16 36.3
4	11½	27 22	16 24.4	26	10½	32 0	21 41.2*
26	11½	27 33	21 30.9	28	9½	32 29	16 40.6:*
28	11	27 46	16 47.9	4	9½	32 51	16 19.9
26	11½	27 56	21 49.9	28	12	33 2	16 48.7
15	12	3 28 10	+16 6.9	15	12	33 14	+15 53.8

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	12½	3 33 24	+15 57.0	15	12½	3 38 15	+16 1.6
4	10½	33 27	16 17.3	26	11	38 20	21 37.1
4	10½	33 29	16 25.8	4	11	38 21	16 14.5
4	11	33 40	16 25.6	15	12	38 59	15 55.5
4	11	33 43	16 22.8	15	12	39 5	15 58.5
28	11½	33 47	16 50.6	28	11	39 14	16 43.1*
15	11	33 58	15 52.6	26	11	39 16	21 32.8
26	11	34 25	21 29.2	26	11	39 28	21 49.7
15	12	34 54	15 55.6	28	12	39 30	16 45.0
26	10	34 56	21 35.4	15	12	39 41	15 56.2
28	11	34 56	16 42.8	26	10	39 43	21 44.9
4	11	35 3	16 20.9	15	11½	39 48	16 5.7
26	12	35 6	21 48.5	15	12½	39 52	16 1.4
26	11½	35 13	21 47.5	4	11	39 57	16 28.2
4	11	35 15	16 11.9	15	12	40 9	15 53.1
4	10½	35 22	16 12.3	26	11½	40 25	21 33.5
28	11	35 23	16 50.8	28	11½	40 33	16 50.3
4	10	35 43	16 13.6	28	11½	40 34	16 49.4
26	12	36 21	21 31.3	26	11½	40 50	21 35.8
4	10½	36 24	16 23.3	26	11	40 56	21 35.6
26	11	36 29	21 38.6*	4	12½	41 24	16 14.7
4	11½	36 36	16 24.5	28	11	41 24	16 40.4
15	12	36 36	16 2.4†	26	10½	41 41	21 47.9
4	11	36 51	16 21.7	15	11	41 47	15 58.6
28	12	37 8	16 41.5	28	10½	41 51	16 47.3
28	11	37 11	16 49.9	15	11½	41 53	16 1.5
15	11	37 18	15 59.7	15	11	41 59	16 3.7
26	9	37 19	21 31.7	26	11	42 0	21 51.8
28	11	37 24	16 46.3	15	11½	42 7	15 57.5
4	11	37 29	16 28.5	4	10	42 18	16 25.4:
28	10	37 36	16 32.0	15	12	42 32	15 57.8
26	11	37 45	21 42.0	26	12	42 51	21 42.9
4	10½	37 57	16 10.9	4	11	42 57	16 22.1
28	10½	38 3	16 41.5	28	12	43 3	16 43.8
26	10½	3 38 12	+21 47.1	28	11½	3 43 13	+16 42.5*

* (4). † Close double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	10½	3 43 16	+16 44.9	4	11	3 50 5	+16 25.6
26	10½	43 31	21 44.1	15	10	50 5	15 57.0
26	10½	44 3	21 31.4	4	9	50 15	16 19.8†
15	11½	44 27	15 57.6	15	12	50 32	15 57.8
15	11	44 28	16 8.3	15	12	50 45	15 54.4
26	12	44 48	21 38.9*	15	12	51 5	16 6.3
4	11½	44 52	16 11.5	15	12	51 28	15 53.0
4	9	45 2	16 14.7	26	11	51 41	21 29.3
4	11	45 59	16 10.6	4 15	10½	51 48	16 10.7
26	12½	46 27	21 46.5	26	12½	51 52	21 39.0
28	10	46 33	16 33.2	4 15	11	52 0	16 9.9
4	11	46 43	16 16.8	15	10	52 30	16 5.9
4	12½	46 59	16 25.8	4	10½	52 36	16 15.6
26	10	47 15	21 47.2	15	10½	52 45	15 55.0
26	12	47 21	21 46.8	28	11	53 2	16 51.9
26	12	47 24	21 46.9	15	10½	53 13	15 54.1
28	11½	47 31	16 42.5	26	10½	53 24	21 38.8†
28	11	47 38	16 35.5	15	10½	53 27	15 54.3
28	11½	47 51	16 35.3	4	12½	53 41	16 14.8
4	11	48 3	16 25.2	4	12½	53 53	16 13.8
15	12	48 7	15 51.7	4	9½	54 12	16 13.6
15	11	48 11	15 58.0	4	11½	54 14	16 15.2
15	10	48 14	16 7.9	15	11	54 36	15 48.6
26	10	48 16	21 36.2	15	12	55 10	16 8.1
4	11	48 17	16 21.2	26	12½	55 16	21 35.4
4	11½	48 25	16 24.7	26	10	55 39	21 31.1
4	11½	48 46	16 22.0	4	11½	55 46	16 13.2
26	12	48 54	21 46.4	4	11½	55 48	16 12.5
26	10	49 4	21 32.1	26	11	55 49	21 37.7
26	12	49 9	21 42.4	4	11½	56 50	16 24.7
4	9	49 16	16 22.9	4	11	56 56	16 27.3
15	10	49 17	15 56.2	4	11½	57 26	16 20.4
15	12	49 28	16 9.7	4	11	57 35	16 26.1
15	9½	49 41	16 3.7	26	12	57 53	21 32.7
28	10	3 49 44	+16 40.2	15	10	3 58 0	+15 56.8

* S. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10½	3 58 2	+16 3.0	26	10	4 14 58	+21 43.4
15	11	59 10	16 7.9	26	12	15 12	21 46.0
4	12	59 13	16 24.5	26	12	16 47	21 45.0
4	11	59 15	16 23.1	26	12	16 48	21 50.0
15	11	59 16	16 2.1*	26	11½	18 59	21 39.7
4	11½	3 59 29	16 27.0	26	12	19 3	21 39.4
26	12½	4 0 20	21 46.1†	13	11½	58 40	19 26.2
15	12½	0 27	15 51.9	13	12	58 44	19 17.3
4	11½	0 31	16 17.7	13	10½	59 0	19 17.6
26	12	0 31	21 44.7	13	12	59 11	19 27.6
26	12	0 39	21 44.0	13	12	4 59 59	19 16.4
15	12½	1 13	15 53.6	13	12	5 0 5	19 15.0
26	10	1 35	21 51.5	13	11½	0 27	19 26.7
15	11	1 44	15 55.5	13	11½	0 44	19 20.9
26	12	2 0	21 52.9	13	10½	0 56	19 15.4
4	9½	2 2	16 22.5	13	12	0 57	19 13.5
15	12	2 8	15 52.4	13	10	1 57	19 29.3
4	11½	2 24	16 24.4	13	10	2 3	19 15.7
15	10	3 5	15 48.8	13	12	2 4	19 12.3
15	10	3 12	15 49.3	13	10	2 56	19 29.7
26	12	3 44	21 34.0	13	11½	3 21	19 30.1
15	11	3 46	15 55.5	13	11	3 48	19 28.2
15	10½	4 11	15 52.8	13	12	4 1	19 27.8:
4	11	4 27	16 28.1	13	12	4 9	19 15.4†
4	9	4 36	16 22.8	13	11½	4 13	19 17.0
26	10	6 51	21 49.8	13	11	5 8	19 18.5
26	11	8 43	21 43.2	13	11½	5 36	19 23.9
26	10	8 44	21 53.2	13	11	5 55	19 13.1
26	11	8 48	21 49.8	13	10	6 35	19 19.5
26	11	10 6	21 46.3	13	10	6 39	19 15.1
26	12½	10 21	21 39.7	13	11½	6 57	19 17.0
26	11½	10 58	21 31.9	13	12	8 22	19 20.0
26	11	11 37	21 45.3	13	12½	8 38	19 26.7
26	12½	11 55	21 47.6	13	12½	8 45	19 26.7
26	10½	4 12 40	+21 45.5	13	10	5 8 49	+19 27.3

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	12	5 9 44	+19 29.2	13	10	5 24 51	+19 18.3
13	12½	9 56	19 30.6	13	11½	25 11	19 18.4
13	10	10 14	19 31.4	13	12	25 13	19 19.1
13	12	10 44	19 19.0	13	11	26 12	19 10.5‡
13	11½	10 47	19 15.2	13	11½	28 25	19 24.4
13	12	10 50	19 17.9	13	12	28 31	19 25.3
13	11	10 50	19 22.6	13	10½	28 37	19 18.8
13	12	12 33	19 27.4	13	10½	29 5	19 20.5
13	12½	12 37	19 30.9	13	10	29 39	19 20.5
13	12	13 21	19 24.9	13	11	29 48	19 20.0
13	12	13 21	19 31.0	13	11½	29 59	19 27.1
13	12	13 29	19 17.8	13	11½	30 18	19 24.6:
13	10½	14 7	19 23.5*	13	11	31 34	19 15.4
13	12	14 18	19 13.8	13	10	31 46	19 18.8†
13	11½	15 16	19 26.2	13	12	31 55	19 13.8
13	11½	15 23	19 27.6	13	10½	32 15	19 15.3
13	11½	15 25	19 29.9	13	12	33 18	19 14.0
13	12	15 48	19 25.6	13	11½	33 25	19 19.7
13	11½	16 27	19 30.1	13	10	36 40	19 19.6
13	12	16 47	19 27.0	13	11	36 44	19 19.6
13	12	17 15	19 29.2†	13	10	37 11	19 20.6†
13	10	17 17	19 19.1	13	11	37 43	19 20.6‡
13	11½	18 28	19 14.7	13	11½	40 3	19 22.1
13	12	18 28	19 13.0	13	10	40 6	19 10.0
13	10½	18 47	19 10.3	13	12½	41 30	19 13.5
13	11½	19 32	19 12.3	13	9	42 44	19 19.6
13	10	19 37	19 24.5	13	11	43 11	19 14.6
13	12	19 59	19 26.8	13	11½	44 1	19 17.7
13	11½	19 59	19 23.1	13	10	45 48	19 14.5
13	12	20 4	19 26.9	13	10½	45 56	19 26.0
13	11½	21 35	19 14.0	13	10	46 7	19 13.1
13	12	21 51	19 15.1†	13	9½	49 11	19 26.4
13	11	22 34	19 28.9	13	12	49 12	19 17.1
13	10	23 13	19 10.2	13	10½	50 12	19 13.4
13	11½	5 24 2	+19 19.3	13	10	5 50 20	+19 22.8

* (4). † L. of double. ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	12	5 50 28	+19 16.5	13	11	6 6 59	+19 16.6
13	11	50 31	19 15.9	13	11½	7 13	19 16.5
13	11	50 32	19 10.6	13	12	7 24	19 15.7
13	12	51 26	19 12.6	13	10	8 29	19 24.8
13	12	52 34	19 19.3	13	11	8 32	19 27.0
13	12	52 35	19 17.8	13	11	10 5	19 25.6
13	11	52 45	19 18.3	13	12	10 10	19 26.9
13	11	52 52	19 19.9	13	11	10 16	19 26.8
13	11	52 57	19 17.1	13	11½	10 29	19 28.0
13	10	54 1	19 28.4	13	12	10 36	19 26.7
13	12	54 46	19 13.3	13	12	10 40	19 21.4
13	12	54 57	19 13.3	13	12	12 7	19 16.4
13	9	55 16	19 14.9	13	9½	12 10	19 19.9
13	11	55 33	19 16.0	13	12	12 20	19 16.9
13	10½	55 37	19 12.6	13	12½	12 22	19 19.6
13	12	56 8	19 12.8	13	11	13 31	19 13.9
13	10	56 48	19 14.6	13	10½	14 11	19 18.1
13	11	57 6	19 17.5	13	11	14 25	19 27.9
13	11	57 23	19 26.3*	13	10	14 52	19 24.2
13	11	58 3	19 26.7	13	–	15 50	19 24.9†
13	11	58 39	19 19.2	13	11	16 4	19 25.7
13	12	58 52	19 16.8	13	11	16 12	19 24.7
13	12	58 58	19 16.0	13	11	17 20	19 16.2
13	10½	59 14	19 28.3	13	12	17 42	19 29.8
13	11	59 46	19 30.1:	13	12	17 43	19 28.8
13	11½	5 59 57	19 30.1	13	10	17 50	19 29.7
13	9	6 0 36	19 14.7	13	12	18 31	19 16.3
13	12	2 33	19 16.0	13	12	18 44	19 17.4
13	10	3 20	19 27.6	13	12	18 47	19 15.9
13	11	4 23	19 18.2	13	12	18 57	19 16.8
13	12	5 6	19 30.9	13	9½	19 6	19 15.1
13	9	5 16	19 30.3	13	11½	19 39	19 24.2
13	10	5 48	19 16.6	13	12	19 48	19 12.9
13	11	6 15	19 18.5	13	11	19 53	19 15.1
13	11	6 6 56	+19 17.1	13	10	6 20 57	+19 18.8

* L. of double: † Faint cluster.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	9	6 21 17	+19 27.9	13	11½	6 29 37	+19 24.0*
13	12	21 29	19 16.2	13	12	30 14	19 20.5
13	12	21 32	19 15.0	13	11½	31 19	19 21.0
13	9	21 36	19 23.1*	13	11½	31 25	19 20.4
13	10½	22 23	19 29.6	13	11½	33 0	19 18.4
13	11	22 53	19 13.9	13	10	33 6	19 18.6
13	11	23 4	19 13.2	13	11	33 7	19 17.8
13	10½	23 43	19 16.8	13	10½	34 26	19 19.4
13	10½	23 51	19 26.5	13	11	34 35	19 18.2
13	11½	24 4	19 18.6	13	11½	34 42	19 18.9
13	11	24 16	19 17.9	13	11½	34 52	19 20.8
13	11½	25 44	19 27.9	13	11½	36 7	19 28.8
13	11	26 20	19 16.5	13	11½	36 16	19 29.0
13	10½	27 5	19 15.0	13	10½	38 22	19 27.5
13	12	27 19	19 23.8	13	11	6 38 25	+19 29.4
13	11½	6 29 29	+19 24.4*				

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

1,081 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	12	3 59 34	+19 44.6	4	12½	4 3 59	+19 41.5
4	12	3 59 45	19 33.8	4	11½	4 9	19 47.0
4	11	4 0 59	19 39.4*	4	11½	5 6	19 37.3
4	11½	1 15	19 34.5	4	10½	5 7	19 46.7
4	11	4 2 16	+19 47.5	4	11½	4 5 16	+19 34.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	11½	4 5 38	+19 33.1	4	12	4 28 23	+19 31.8
4	9	6 48	19 45.3	4	11	28 36	19 40.3
4	12	6 55	19 41.6	4	11	28 48	19 37.1:
4	11½	7 27	19 43.4	4	11	29 0	19 46.3:
4	11	8 24	19 38.9	4	12	29 10	19 44.8
4	11½	10 31	19 34.4	4	11	30 40	19 38.9†
4	12	11 2	19 45.9	4	10	30 40	19 28.7
4	12	11 9	19 38.1	4	11½	30 49	19 39.0†
4	10	11 54	19 46.4	4	11	31 9	19 47.2
4	11	12 59	19 35.8*	4	11	31 29	19 45.1
4	12	13 33	19 39.1	4	10	32 49	19 33.5
4	11	13 55	19 48.0	4	11	33 14	19 34.9
4	10½	14 49	19 44.9	4	10½	33 22	19 30.8
4	10	15 0	19 45.1	4	11	34 17	19 46.9
4	10	15 16	19 46.3	4	10½	34 24	19 37.7*
4	11½	15 22	19 44.8	4	10	35 0	19 30.5
4	9½	15 38	19 36.5	4	11	35 3	19 34.4
4	10	15 48	19 36.8	4	12	36 9	19 35.5
4	11	16 58	19 42.6	4	10	36 13	19 33.9
4	11	17 17	19 34.2	4	12	37 2	19 34.0
4	12	18 11	19 45.4	4	12	37 10	19 32.0
4	10	18 37	19 34.3	4	11	38 5	19 35.9
4	11	18 47	19 48.1	4	12	38 8	19 38.4
4	11	18 49	19 45.4	4	9½	38 40	19 39.7
4	9	19 12	19 41.6	4	11	38 52	19 35.2
4	12	20 49	19 42.7*	4	12	39 26	19 34.5
4	12	20 59	19 30.9	4	12½	41 31	19 43.3
4	12	21 3	19 38.7†	4	11½	41 40	19 43.5
4	10	22 16	19 32.7	4	9½	43 5	19 32.4
4	10½	22 22	19 46.7:	4	9½	43 24	19 42.4†
4	12	23 44	19 30.7	4	10	43 46	19 42.1†
4	12½	23 59	19 37.0	4	9	43 51	19 44.7
4	12½	25 23	19 36.1	4	11½	44 22	19 38.7
4	12½	25 33	19 36.0	4	12	45 45	19 35.9
4	12	4 25 40	+19 35.8	4	12½	4 45 51	+19 36.0

* L_1 of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	9	4 46 1	+19 31.2	8	12½	5 0 9	+25 57.1
4	8	46 4	19 43.2	8	12½	0 12	25 55.1
4	11	47 39	19 46.9:	8	11	1 2	25 57.0
4	11½	47 41	19 33.2	8	12	1 15	25 54.1
4	10½	48 0	19 34.9	12	11	1 15	27 5.7
4	12	48 20	19 32.4	12	11½	1 35	27 5.5
4	10½	48 48	19 47.5	4	12	1 36	19 36.7
4	9	49 16	19 49.3	4	12	1 44	19 37.9
4	11	50 1	19 34.2	12	12	1 48	27 5.2
4	11	50 12	19 37.4	8	12½	2 14	●25 49.7
4	11½	50 23	19 38.3	12	11	2 20	27 4.9
4	9½	50 51	19 44.2	8	12½	2 21	25 48.2
4	9	51 5	19 39.1	12	11	2 22	26 49.2
4	9	51 29	19 33.1	12	11	2 51	26 47.0
4	10	52 59	19 37.7	4	12	2 53	19 44.7
4	9	53 2	19 44.6	8	11½	3 34	25 52.7
4	10½	53 3	19 35.3	4	10	3 36	19 46.6
4	11	53 52	19 31.4	12	11½	3 54	26 49.6
4	12	54 18	19 48.7	12	11	3 58	26 59.4†
4	11½	55 0	19 31.2	4	10	3 59	19 33.7
4	12	55 5	19 34.5	8	12½	4 4	25 55.8
4	11½	55 10	19 37.6	4	10½	4 15	19 47.0
4	9½	55 28	19 49.4	4	10½	4 20	19 48.8
4	12½	56 25	19 35.4	8	12½	4 26	25 56.9
4	12	56 30	19 34.5	8	12	4 34	25 51.9
4	12	56 52	19 39.3	12	11½	4 46	26 56.0
4	12	57 12	19 39.6	12	10½	4 59	26 53.0
4	12	58 24	19 33.6	4	9	5 23	19 42.7
4	12	58 35	19 32.7	4	11½	5 30	19 38.6
12	11	59 21	26 54.5	4	12½	5 36	19 49.4
8	12½	59 54	25 54.8	8	12	5 37	26 4.0
12	11	4 59 54	26 57.9	4	11	5 58	19 33 4
8	12	5 0 1	25 53.1	8	9½	6 26	25 52.2
12	11½	0 6	27 0.7*	12	9½	6 36	26 56.9†
4	11½	5 0 8	+19 48.6	12	11	5 7 5	+27 3.4

● L. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	10½	5 7 10	+19 33.7	8	11	5 12 21	+26 9.0
8	9½	7 26	26 9.6	8	12	12 23	25 55.4
4	10½	7 27	19 37.2	12	10½	12 43	26 53.7
8	11	7 45	25 59.0	8	10½	12 59	26 2.0‡
4	12	7 51	19 33.4	12	12	13 8	26 54.5
4	11½	7 59	19 32.9	12	12	13 18	26 53.8
4	12	8 7	19 33.6	12	12	13 21	26 55.8
8	10	8 9	25 54.5	12	10½	13 22	27 5.9
12	11	8 21	26 50.7	4	11½	13 47	19 39.0
12	10	8 36	26 52.4	8	12	13 59	25 56.4
12	12	8 41	26 53.0	4	11½	14 4	19 35.6†
12	11	8 47	27 4.1*	12	11	14 5	26 49.0
8	11½	9 27	25 56.5	8	11½	14 9	26 0.8
4	11	9 32	19 45.9	4	12	14 15	19 33.4
4	11	9 32	19 47.1	8	11	14 23	26 6.7
8	11½	9 32	25 57.7	8	10½	14 31	26 6.0
8	12	10 12	26 4.1	12	10½	14 34	26 58.2
12	9½	10 13	27 0.1	12	11½	14 40	27 1.2
4	9½	10 15	19 31.3	12	12½	14 52	27 6.0
12	11½	10 17	26 56.3	12	12½	14 54	27 5.9
8	10	10 29	26 5.9	4	11½	15 3	19 36.4
12	9	10 31	26 55.0	8	12	15 19	26 7.3
12	11½	10 38	26 51.1	4	10	15 20	19 33.9
8	11	10 46	25 54.4	8	11½	15 39	26 12.4
4	9½	10 47	19 35.9	8	11½	15 41	26 6.9
8	12½	11 20	26 12.1	12	11	16 7	26 50.5
12	9½	11 26	26 51.4	8	11	16 10	26 10.2
4	10	11 35	19 42.4†	8	12	16 34	26 8.6
8	12½	11 38	26 9.3	8	11½	16 48	26 6.0
4	11½	11 41	19 37.9	12	12	16 48	26 53.2
12	12	11 47	26 54.1	12	12	16 49	26 55.9
4	10	11 50	19 48.1	12	12½	16 56	26 55.0
12	11	11 51	27 5.1	12	9½	17 16	26 51.5
12	12	12 1	26 53.3	12	11	17 30	26 50.8
12	11½	5 12 13	+26 53.8	8	12	5 17 48	+26 8.1

* L. of double. † (4). ‡ (4) L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	12	5 18 0	+25 56.6	8	11	5 25 33	+26 9.5
12	12	18 7	26 50.3	12	12½	25 38	27 2.5
8	12	18 30	25 53.1	12	11	25 40	27 3.2
12	9½	18 30	26 52.0	8	10½	25 50	26 7.3
8	11	18 43	25 53.0	8	11	26 2	26 8.4
12	11	19 3	26 55.7	8	10	26 20	25 55.2
12	11	19 21	27 8.2	12	12	26 33	27 5.6*
12	11	19 24	27 2.1	12	10	26 42	27 6.5
8	11	19 36	26 8.2	12	–	26 54	27 6.7:
12	11	19 40	27 0.8	12	10½	27 46	26 51.3
8	12½	20 8	26 5.0	8	10½	28 13	25 58.5
12	10	20 8	27 2.0	8	12	28 25	26 0.9
12	–	20 9	26 49.7	8	10½	28 34	25 54.8
8	12	20 15	26 4.2	8	12	28 36	25 59.9
8	12½	20 32	25 52.3	12	12½	28 42	26 51.5
12	–	21 1	26 56.2	8	11	29 8	26 2.5
8	12	21 10	25 51.3	12	11	29 9	26 49.6
12	11	21 11	26 54.3	12	11	29 14	26 50.1:
12	11	21 15	26 54.5	8	11	29 53	25 52.2
8	12½	21 16	25 54.1	8	11½	29 55	25 53.2
12	9½	21 37	27 1.3	12	11	30 8	26 49.1
8	12½	21 56	26 10.6	12	10	30 14	26 54.4
8	12½	22 6	26 8.6	12	11	30 21	27 3.1:†
8	9½	22 7	26 10.7	8	10	31 8	25 56.1
12	11	22 13	26 53.6	8	10	31 12	25 54.4
12	12	22 40	26 54.6	8	11	31 32	26 6.2
8	11	22 43	25 51.7	8	9	31 45	26 2.7
12	10	23 10	26 56.6	12	9	32 40	27 4.0
12	11	23 42	27 6.5	8	11	33 40	26 1.7
12	12	23 57	26 55.4	8	10½	33 45	26 4.9
12	11	24 18	27 4.9	8	10	34 0	26 4.3
8	12	24 37	25 54.3	12	11	34 2	26 54.8
8	12	24 40	25 53.9	8	11	34 5	26 8.7
8	12	24 51	25 54.0	8	9½	34 11	25 57.1
8	11½	5 25 19	+26 8.0	8	11½	5 34 56	+25 54.7

* An 11th *p.* † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	10½	5 35 6	+25 51.4	8	12	5 43 12	+25 54.0
8	11	35 12	25 55.2	8	11½	43 42	25 52.6
12	10½	35 15	26 53.8	12	10½	43 47	26 51.9
8	11	35 21	25 55.0	12	10½	44 24	26 57.3
12	10½	35 39	27 4.9	12	9½	44 29	27 2.0‡
12	10½	35 59	27 5.5	12	10	44 33	26 53.9
8	10	36 33	26 2.6	12	11	44 40	26 55.2
8	11	36 39	26 4.1	8	10	44 49	26 8.7
12	11	36 43	27 4.3	8	12	45 0	26 7.7
12	11	36 56	27 3.4	8	12	45 2	26 8.5
12	9½	37 28	26 56.1	8	12	45 13	26 7.5
12	12	37 55	26 53.2	12	10	45 28	27 7.8
8	11½	37 57	25 58.1	8	10½	46 5	25 53.3
8	11	37 58	25 55.7	8	9½	46 6	26 8.7
12	9½	38 16	26 51.6	12	10½	46 52	27 0.6
12	10½	38 47	26 53.1	12	11	46 58	26 51.9
12	11	39 10	27 8.2	8	12½	47 2	25 57.7
12	11	39 17	27 8.5	8	11	47 3	26 7.2
12	11	39 26	27 8.7	8	11	47 4	26 8.0
8	12	39 30	26 11.8	8	11	47 5	25 56.0
8	10½	39 45	26 12.0	12	11	47 20	26 57.2
8	12	39 52	26 13.4	8	10	47 28	26 4.8
8	10	40 19	26 11.6	8	11½	47 29	26 6.7
12	11½	40 26	27 6.1*	12	9½	48 14	27 0.0†
12	11	41 0	26 50.9:	12	9	48 24	27 6.4
12	10	41 1	26 57.0	12	10½	48 45	27 2.0
12	10	41 11	26 49.8	8	11	49 1	25 56.9
8	11½	41 38	26 1.8†	8	11½	49 3	25 58.1
12	11½	41 58	27 3.0	12	11	49 8	27 1.4
12	11½	42 10	27 5.7	8	11	49 16	26 6.3
12	11½	42 18	27 2.1	12	10½	49 27	27 3.6
8	10	42 21	26 2.2	12	11	49 58	27 3.1
8	11	42 34	25 59.5‡	12	11	50 9	27 7.6
12	11	42 45	27 1.3	8	11	50 16	25 54.0
8	12	5 43 7	+25 53.8	8	12	5 50 29	+25 55.4

* Double. † (4) ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	11½	5 50 30	+25 56.1	4	11	5 59 59	+22 26.6
8	12	50 42	25 54.9	8	11	6 0 5	25 59.7†
12	11	51 22	26 55.1	8	11½	0 31	25 53.1
8	11½	51 24	26 8.0	8	12½	0 33	25 52.7
8	12	51 24	26 8.5	12	11½	0 34	26 55.7
12	11½	51 50	26 56.5	15	12	0 41	26 31.1
12	11	51 52	26 56.9	15	11	0 47	26 37.3
8	12	52 10	25 53.6	12	10	0 54	27 1.9
8	12	52 15	25 55.6	12	10	0 57	26 55.4
8	12	52 15	25 53.3	12	12	1 12	26 55.1
12	10½	52 51	27 2.0	12	11	1 20	26 51.0
8	11	52 54	25 59.3	4	11½	1 36	22 30.6‡
12	10½	53 0	26 51.2	4	12	1 40	22 20.0
8	10½	53 13	26 8.5	15	11	2 6	26 40.8
8	10	53 19	26 9.9	8	11½	2 17	26 8.9
12	11½	53 24	27 3.5	8	8½	2 24	27 9.6
12	10	54 24	26 54.3	8	12	2 30	27 4.5
8	12	54 28	26 4.7	12	11½	3 21	26 49.4
8	12	54 47	26 2.5	12	11	3 22	26 51.0
12	11½	54 51	26 51.1	15	10½	3 57	26 34.1
8	11	54 52	26 3.0	15	12	3 58	26 43.8§
12	11½	55 10	26 54.3	15	11½	4 19	26 40.9‖
8	11	55 11	26 5.3	8	10	4 20	25 51.9
8	12	56 21	26 5.3	12	11	4 24	27 2.4
8	11½	57 0	25 51.8	12	12½	4 26	26 54.1
8	10½	57 10	25 53.5	4	11½	4 29	22 16.1
8	11½	57 30	25 55.7	12	12	4 30	26 54.5
4	11½	58 21	22 25.1	4	11	4 31	22 12.5
4	11½	58 37	22 26.1	8	11	4 37	25 53.9
4	12	58 42	22 26.7:	8	11	4 39	25 59.5
8	10½	58 56	25 52.2	4	11½	4 41	22 18.3
12	11	59 8	26 52.2	8	11	4 41	25 51.1
8	12½	59 9	26 1.0*	15	11	4 42	26 44.1
12	11	59 30	26 53.9	4	11	4 55	22 19.5
12	11	5 59 56	+27 5.6	8	12	6 5 1	+25 56.9

* *p.* of double. † L. of double. ‡ First of group. § N. *p.* of close double. ‖ (4). N. *p.* of double.

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
8		11½	6 5 17	+25 53.1	12		9½	6 10 2	+27 6.8
4		10	5 20	22 26.6	15		10	10 25	26 44.0
12		10	5 20	27 0.0*	8		11	10 27	26 7.7
8		11½	5 22	25 55.8	8		11½	10 29	26 4.4
8		11½	5 32	25 57.7	8		11	10 39	26 4.5
15		10	5 54	26 42.2	12		9½	10 49	27 2.1
12		10½	6 2	26 52.1	4		11½	10 57	22 13.1
4		10	6 12	22 20.4†	4		11	11 5	22 21.9
8		11	6 20	26 9.1	12		10	11 9	26 55.0
4		10	6 23	22 29.6	15		9	11 9	26 37.7
8		11½	6 37	25 52.6	15		10½	11 11	26 43.3
8		12½	6 50	25 52.6	4		11	11 13	22 22.1*
15		11	7 5	26 45.3	4		11½	11 30	22 24.3
12	15	10	7 8	26 50.2	12		10	11 43	26 56.6
12		10½	7 10	27 0.7	8		9½	11 50	26 3.0
8		11	7 32	25 54.2	8		11	11 58	26 12.4
8		10½	7 33	25 55.2	15		11	11 58	26 38.8
8		12	7 42	25 59.9:	8		11½	12 2	26 9.5
12	15	10	7 45	26 51.5	15		11½	12 19	26 49.3
12	15	10	7 54	26 50.9	12		9	12 28	27 2.4
8		11	8 4	26 4.7	4		11	12 38	22 12.5
8		10½	8 25	26 7.0	12		12	12 42	27 2.3
8		10½	8 30	26 5.8	12	15	10	12 53	26 50.5
4		10½	8 37	22 28.5	12		11	12 54	26 57.9
12		11	8 48	26 54.8	4		10½	13 0	22 14.9
12		10	8 55	26 54.1	4		9½	13 0	22 9.4
8		10	9 12	25 56.7	4		11½	13 31	22 16.2
15		11	9 15	26 36.3	4		11	13 49	22 11.6
12		11	9 16	26 56.1	4		11	13 58	22 17.2
12	15	9½	9 20	26 50.6	4		11½	14 6	22 19.6
4		11	9 26	22 21.8	8		12	14 11	25 56.2
15		11	9 30	26 49.8	12		11½	14 14	26 53.5
4		10½	9 34	22 10.8	8		12	14 22	25 59.0
15		11½	9 37	26 38.3	12		11	14 39	26 54.8
4		10½	6 10 1	+22 24.0	4		10	6 14 42	+22 27.9

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	10	6 14 43	+27 4.7	15	10½	6 19 19	+26 45.7
12	11	14 53	26 57.2	8	11	19 20	26 9.6
4	10½	15 2	22 30.3	12	11	19 22	27 3.2
8	11½	15 2	25 54.3	15	10½	19 25	26 47.7
15	11	15 2	26 38.2	4	12	19 26	22 13.0
15	11	15 5	26 46.4	15	11	19 52	26 46.1
15	11½	15 14	26 50.6	8	11½	19 59	25 53.8
4	11	15 16	22 30.6	8	11	20 5	26 2.0
12	10	15 29	26 58.2	4	10	20 17	22 27.9
12	10	15 30	26 57.9	8	11	20 18	26 3.8
8	10½	15 46	25 57.7	15	12	20 24	26 33.4
4	11	16 15	22 25.0*	4	10½	20 26	22 27.8
4	11	16 20	22 23.8	4	11½	20 28	22 19.7
15	10½	16 25	26 38.3	8	11½	20 29	25 52.7
15	10½	16 25	26 51.8	4	10	20 34	22 27.6
8	12	16 28	26 3.0	15	11	21 2	26 37.0
8	11	16 30	26 6.5	12	11½	21 3	26 53.3
15	11	16 33	26 47.4	4	11	21 5	22 11.6
15	11	16 40	26 38.7	15	11	21 19	26 40.4
4	11	17 14	22 12.9	12	10½	21 24	26 56.7
12	10½	17 26	27 7.9	8	10	21 29	26 2.6
4	11	17 38	22 11.7	15	8	21 30	26 44.4†
15	10½	17 40	26 47.5	4	10½	21 31	22 18.6
8	10½	17 50	26 0.3	8	10	21 32	26 2.4
15	10	17 57	26 45.2	8	10	21 33	25 54.0
4	10	18 2	22 13.6	12	11	21 49	27 6.2
8	10½	18 5	26 5.6	12	10	22 14	27 6.4
12	10	18 15	26 57.0	4	11½	22 16	22 19.1
4	10	18 17	22 26.4	12	9	22 38	26 57.1
4	9	18 34	22 12.1	4	11	22 44	22 16.5
4	10	18 59	22 10.2	12	10	22 44	26 50.0
12	10	19 7	27 3.2	8	11	23 6	26 6.7
15	11½	19 8	26 48.1	12	11	23 6	27 7.4
12	10	19 10	27 0.9	15	11½	23 6	26 40.9
12	10	6 19 19	+27 6.2	8	11½	6 23 8	+26 7.1

* S. *p.* of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	10½	6 23 13	+26 6.8	8	9	6 26 54	+26 10.0
4	11½	23 21	22 18.1	15	11	26 56	26 48.1
4	11	23 29	22 15.8	4	9½	27 3	22 27.4
8	9	23 34	25 57.0	15	11	27 32	26 47.1
4	11	23 40	22 14.4	12	11	28 1	27 5.1
12	10½	23 49	26 59.6	12	11	28 6	27 5.6
8	10½	24 3	26 8.7	8	11	28 8	25 55.5
15	9	24 5	26 43.3*	15	11	28 16	26 29.7
8	10½	24 8	26 10.3	4	11½	28 18	22 15.9
8	11½	24 11	26 7.3	12	11	28 18	27 2.5
8	11½	24 12	26 5.5	8	11	28 20	25 55.6
15	11½	24 12	26 52.0	4	11½	28 25	22 19.3*
4	9½	24 31	22 17.0	4	11½	28 26	22 20.0
15	11½	24 31	26 47.7	8	10	28 29	26 2.6
4	10	24 33	22 29.7	15	10	28 31	26 32.9
12	11	24 35	26 55.4	8	10½	28 41	25 58.0
15	9½	24 35	26 46.2	8	11	28 51	26 0.0
12	11	25 2	26 51.4:	15	9	29 19	26 37.3
8	11	25 19	26 11.5	12	10½	29 39	26 53.4
8	12	25 25	26 8.2†	15	10	29 39	26 44.1
15	10½	25 25	26 35.8	8	11	29 48	25 56.9†
12	11	25 36	26 50.1:	8	11	29 53	25 56.1
4	10½	25 49	22 12.7	15	11	30 3	26 30.9
12	11	25 49	26 51.4	4	11	30 11	22 18.8
15	11	25 54	26 37.0	12	10	30 16	27 1.9
4	11	26 15	22 18.3	4	11	30 23	22 19.1
4	11	26 15	22 19.3	4	10	30 24	22 16.5
8	12	26 25	25 55.2	15	11½	30 26	26 34.3
15	11	26 29	26 43.9	12	11	30 27	27 1.9
8	9	26 32	26 6.0†	4	10½	30 33	22 19.9*
12	11½	26 34	26 54.7	15	11	30 41	26 38.8
12	11	26 44	26 52.4	12	12	30 53	27 2.1
12 15	11	26 47	26 54.3	12	10½	30 59	27 4.7
8	9½	26 49	26 7.8	8	11	31 1	25 52.6‡
15	11	6 26 51	+26 44.1	8	9½	6 31 4	+25 55.4

*(4). † L. of double. ‡ S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	11½	6 31 7	+25 54.7	12	12	6 35 38	+27 3.7
8	11	31 7	25 52.1	15	11	35 40	26 43.7
15	11½	31 10	26 36.5	15	12	35 46	26 46.4
8	10	31 11	26 2.1	15	11	35 53	26 44.2
12	10½	31 30	26 52.4	4	11	35 56	22 27.3
15	11	31 35	26 49.7	15	11½	36 3	26 47.2
15	11	31 38	26 43.2	15	12½	36 14	26 43.8†
4	10½	32 3	22 28.1	8	9½	36 22	25 54.8
4	10	32 6	22 10.9	8	10	36 29	25 52.1
15	11½	32 26	26 34.1	12	11½	36 36	26 51.2
15	11	32 27	26 34.6	4	10	36 38	22 32.6
15	12	32 28	26 39.1	12	12	36 46	26 52.3
4	11	32 38	22 27.7	12	12	36 55	26 53.1
4	11	32 43	22 30.9	8	11	37 6	25 55.3
8	9½	32 43	25 57.4	8	10½	37 10	25 54.3
8	11	32 48	25 52.8	4	11	37 16	22 15.9
12	12	32 51	27 0.4	4	11½	37 32	22 15.8
4	11	32 54	22 27.6	15	12	37 41	26 48.0
15	11	32 57	26 33.4	15	12	37 46	26 46.0
12	11	32 58	27 3.6	15	11½	37 55	26 35.8
12	11½	33 0	26 54.0	8	11	37 57	26 2.2‡
15	10½	33 26	26 35.8	12	11	37 58	26 55.2
15	10½	33 32	26 33.5*	12	10	38 2	26 54.3
8	10½	33 47	26 1.2	15	11½	38 6	26 35.6:
12	11½	33 59	27 6.2	8	11½	38 12	25 57.0
4	11½	34 9	22 19.9	8	9½	38 22	25 51.5
15	11	34 14	26 41.3	8	11	38 25	25 58.4
15	10½	35 12	26 43.1	15	11½	38 25	26 39.7:
4	11½	35 13	22 22.8	8	12	38 38	25 59.0
12	10½	35 16	27 1.1	12	10	38 49	26 51.5*
12	10½	35 20	27 1.7	4	11½	39 8	22 16.0
8	10½	35 25	26 9.0	12	11	39 22	26 51.6
8	11½	35 26	25 53.5	8	11	39 36	25 52.5
12	11	35 27	26 57.8	8	11	39 49	25 55.0
8	11½	6 35 37	+25 59.8	12 15	11	6 39 53	+26 51.2

*p. of double. † N.f. of double. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	9	6 40 6	+22 16.4	4	9½	6 43 54	+22 25.4
12	11	40 8	26 52.9	12	11	43 56	26 58.4†
15	9½	40 16	26 31.1	4	11½	44 5	22 25.4
4	9	40 18	22 19.2	12	11	44 6	27 3.7
12	10	40 26	27 3.3	4	9	44 21	22 19.6†
15	10½	40 32	26 34.3	4	10	44 22	22 24.9
4	11½	40 39	22 15.1	8	10½	44 34	26 2.4
8	11	40 44	25 53.1	15	11½	44 46	26 44.4
8	10	40 47	25 59.4	15	11	44 53	26 41.4†
12	10	40 56	26 59.1	8	11	45 0	26 3.2
15	12½	40 59	26 38.0*	8	11	45 2	26 9.1
12	11½	41 1	26 54.3	12	12	45 20	27 6.6
12	11	41 4	27 4.8	12	11½	45 21	26 55.0
8	11½	41 5	26 3.9	12	12½	45 29	27 6.9
8	10½	41 16	26 4.2	4	10	45 34	22 29.3
15	11	41 23	26 47.6	4	11	45 44	22 30.1
15	11	41 43	26 50.0	12	10	46 0	26 50.0
12 15	12	41 58	26 49.5	15	10	46 0	26 43.0
4	10	42 5	22 21.8†	4	11	46 15	22 13.0§
4	10½	42 10	22 29.4	12	9½	46 24	27 6.3
12 15	12	42 13	26 50.6	15	10	46 35	26 48.9
4	11	42 18	22 23.1	12	10	46 53	27 4.6
8	12	42 30	25 54.4	4	12½	47 7	22 13.5
4	10½	42 33	22 30.9	4	11	47 17	22 14.5
4	11	42 39	22 27.9	4	11	47 21	22 14.3
8	11½	43 5	25 58.7	15	10½	47 27	26 35.6
15	10½	43 10	26 46.5	15	11	47 30	26 32.9
12	10	43 31	26 57.4†	12	10½	47 34	26 55.8
15	10½	43 38	26 35.9‡	15	10½	47 40	26 31.3
4	½	43 43	22 25.7	12	9	47 55	26 52.2
12	11½	43 43	27 5.3	4	10½	48 24	22 18.8
8	12	43 44	26 2.7	12	10½	48 24	26 54.4
12	11½	43 45	26 57.9	15	11	48 27	26 48.3
15	10½	43 45	26 37.8‡	12	9	48 29	27 4.1
12	9	6 43 47	+27 6.6	15	11	6 48 29	+26 45.7

* N. *f.* of double. † (4). ‡ L. of double. § N. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	9	6 48 34	+26 45.7	15	11	6 52 55	+26 38.6
12 15	11	48 37	26 49.6	15	12½	53 31	26 43.9
8	12	48 46	25 49.5	8	11	53 39	26 0.6
4	11½	48 48	22 19.6	15	11	53 43	26 44.4
4	10½	49 0	22 26.0	12	11	54 0	27 1.1
4	10	49 11	22 25.4	12	11	54 2	26 55.7
4	10½	49 26	22 27.6	8	12½	54 5	25 53.0
4	9	49 27	22 26.9	12	11	54 15	27 8.0
15	12	49 35	26 35.5	8	12	54 20	25 55.7
8	10	49 58	26 6.6	12 15	9½	54 55	26 49.7
12	11½	50 4	26 55.9 :	15	9½	54 58	26 33.9
4	11	50 16	22 27.6	15	11½	55 10	26 35.4
12 15	11	50 16	26 50.7	8	10½	55 12	25 56.1
12	11	50 17	26 55.2	12	11½	55 49	27 7.8
12	11½	50 18	26 57.1	12	11½	55 52	27 5.6
4	9	50 21	22 29.8	12	11½	56 6	27 6.8
4	9	50 30	22 26.8	15	10½	56 8	26 45.5
15	10	50 43	26 31.4	12	11	56 12	26 59.2
8	11	50 55	25 56.8	15	10½	56 24	26 49.8*
8	11	50 57	26 2.9	15	11½	56 30	26 49.2
15	11	50 59	26 37.9	15	10	56 33	26 43.5
8	11½	51 5	25 59.5	12 15	11	57 20	26 52.1
15	10	51 16	26 32.7	12	10	57 21	27 4.5
8	10	51 21	25 53.0	12 15	10	57 31	26 51.8
15	11	51 33	26 45.0	12	9½	57 35	27 3.2
12	11	52 2	26 56.1	15	12	58 3	26 49.6
12	11	52 5	26 53.0	15	12	58 20	26 51.4
8	10½	52 20	26 13.3	12 15	11½	58 28	26 51.2
12	11	52 25	26 59.7	12	11	58 35	26 53.8
12	11	52 27	26 54.8	12 15	11½	58 43	26 50.3
15	11½	52 32	26 37.3	12	9	59 35	27 0.1
12	11	52 34	26 56.5	15	10½	6 59 42	26 46.4
12	11	52 34	26 53.0	12	9½	7 0 16	26 54.1
15	9	52 43	26 48.3	12	11½	0 25	27 1.2
15	11½	6 52 54	+26 40.3	12	11	7 0 26	+26 52.5

* L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	12	7 0 36	+26 45.3	15	11½	8 11 27	+21 25.9
15	11	0 55	26 50.8	15	9	11 32	21 27.6
15	10½	1 2	26 45.1	15	10	11 48	21 21.3
15	10½	1 40	26 33.9	15	11½	12 29	21 27.6
12	11½	1 49	27 6.6	15	12	13 11	21 31.3
12	10½	1 56	27 1.8	15	10	13 28	21 23.6
12	11	2 4	27 0.1	15	11	13 34	21 23.6
12	11½	2 6	27 7.5	15	11½	13 41	21 27.5
15	11½	2 7	26 35.5	15	11	15 14	21 13.7
12	11	3 25	27 .5	15	10	15 19	21 23 1*
12	11	3 26	27 1.1	15	11½	15 25	21 18.7
12	9½	3 35	27 1.1	15	11½	15 34	21 27.9
12	11½	4 2	27 6.0	15	10½	15 36	21 31.9
12	11½	4 15	27 3.7	15	11½	16 34	21 33.8
15	12½	7 59 42	21 16.5	15	12½	16 43	21 33.9
15	11	8 0 16	21 14.1	15	12½	17 6	21 29.2
15	10½	2 0	21 16.5	15	10	17 18	21 20.0
15	12½	2 9	21 17.8	15	10½	18 19	21 28.3
15	11	3 53	21 31.1	15	10	18 32	21 25.9
15	11	4 11	21 27.5	15	12	18 55	21 24.7
15	11½	4 27	21 27.8	15	12	19 7	21 26.4
15	11	5 10	21 31.3	15	11½	19 13	21 25.5
15	10	5 33	21 30.4	15	10½	19 31	21 17.2
15	11	6 10	21 24.5	15	11	19 35	21 15.0
15	10	6 15	21 27.7	15	11½	20 24	21 18.6
15	12	7 0	21 29.2	15	11	20 38	21 13.0
15	10	7 54	21 28.0	15	9½	21 1	21 17.9
15	11½	7 57	21 12.8	15	10	21 8	21 14.6
15	12	8 12	21 26.6	15	10	21 25	21 16.9
15	11½	9 9	21 26.2	15	10	22 20	21 16.2†
15	12½	9 29	21 14.8	15	11½	22 28	21 26.7
15	12	10 17	21 34.1	15	11½	22 35	21 27.7
15	11	10 17	21 33.0	15	11½	22 43	21 25.1
15	10½	10 59	21 27.0	15	10½	23 26	21 16.7
15	10½	8 11 22	+21 30.4	15	11	8 23 39	+21 20.4

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10	8 24 53	+21 31.6	15	10½	8 42 34	+21 18.0
15	12½	25 14	21 13.6	15	10½	42 43	21 26.9‡
15	12	25 21	21 31.2	15	12	44 19	21 14.8
15	10½	25 41	21 12.3	15	12	44 24	21 18.8
15	11	26 19	21 14.6	15	9½	45 16	21 29.1
15	10	26 32	21 18.4	15	10½	45 27	21 17.2
15	11	27 12	21 29.4	15	11½	46 4	21 13.7
15	11½	27 54	21 18.7	15	11	46 31	21 29.0
15	12½	28 24	21 20.4:	15	11	47 0	21 11.1
15	12	28 33	21 25.9	15	10½	47 42	21 15.8
15	11½	28 49	21 27.0	15	12	48 18	21 24.9
15	12	28 59	21 28.9	15	10½	48 21	21 23.6
15	10	29 58	21 19.5	15	11½	50 3	21 18.6
15	12	30 0	21 14.8	15	11	50 9	21 26.9
15	11	30 48	21 18.7	15	12½	51 9	21 15.4
15	11	31 0	21 27.7	15	12½	51 24	21 15.5
15	10½	31 41	21 21.4	15	10½	53 23	21 12.6
15	12	32 27	21 25.4	15	12	54 9	21 19.9
15	11	32 43	21 21.3	15	12½	54 12	21 19.8
15	11	33 36	21 23.1*	15	11½	54 15	21 15.2
15	11	34 5	21 12.8	15	12	54 24	21 15.5
15	11	35 39	21 20.6*	15	10½	54 36	21 17.1
15	11	36 19	21 27.0	15	11	55 4	21 12.5
15	11	36 27	21 30.7	15	11½	56 19	21 16.7
15	10½	36 56	21 30.3	15	11½	56 36	21 20.8*
15	11	37 31	21 16.3:	15	11½	56 53	21 15.3
15	–	37 46	21 21.1	15	11	57 48	21 25.4
15	11	37 53	21 14.2:	15	12½	58 32	21 24.8
15	12	39 26	21 21.0*	15	11½	58 38	21 24.8
15	11	39 38	21 26.7	15	11	58 41	21 11.8
15	11	39 50	21 25.8	15	11½	58 56	21 20.7
15	12	40 51	21 27.8	3	12	8 59 36	13 36.1
15	10	41 3	21 16.8	3	11½	9 0 10	13 38.5
15	11	41 53	21 23.3†	15	12	0 13	21 27.8
15	12	8 42 3	+21 27.3	15	12	9 0 22	+21 27.8

* (4). † L. of double. ‡ S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	9 1 2	+13 51.6	3	11	9 23 58	+13 40.2
15	12½	1 4	21 15.3	3	10	25 30	13 39.0
15	12	1 7	21 19.4	3	11	26 23	13 40.6
15	9½	1 35	21 25.6	3	11	26 29	13 40.8
15	12	1 36	21 28.1	3	10	26 42	13 36.3
3	12	2 3	13 48.8	3	12	27 26	13 36.7
15	10	2 11	21 27.7	3	12	27 48	13.37.5
15	11	2 16	21 31.8	3	12½	29 26	13 47.0
3	11	2 21	13 47.6	3	12	29 26	13 48.1
3	11	2 24	13 50.2	3	9½	31 1	13 50.3
3	11½	2 35	13 49.9	3	10½	34 5	13 51.0
15	11	2 47	21 31.9	3	11	34 23	13 42.5*
15	10½	2 50	21 27.7	3	12	34 47	13 39.2
3	12	3 39	13 52.8	3	12½	36 37	13 35.3
3	11	3 56	13 55.7	3	12	38 3	13 50.9
3	12	5 17	13 39.9	3	10	38 42	13 48.0
3	11½	6 31	13 47.4	3	11	41 31	13 39.3
3	11½	9 21	13 53.0	3	11	41 36	13 43.4
3	12	9 32	13 45.2*	3	12½	41 58	13 37.3
3	11½	10 6	13 41.7	3	12½	42 51	13 52.7
3	11	10 11	13 42.5	3	11½	43 20	13 50.2
3	12	11 9	13 41.9	3	12½	44 50	13 37.6
3	11½	11 47	13 38.6	3	12½	44 58	13 39.3
3	11	13 38	13 50.7	3	12½	46 27	13 44.2
3	11½	13 56	13 41.8	3	11½	49 5	13 52.2
3	10½	15 12	13 50.6	3	12½	51 22	13 38.3
3	12½	16 33	13 48.0	3	12	52 19	13 42.4
3	11½	17 38	13 48.1	3	12½	53 45	13 40.3
3	12	18 52	13 33.7	3	12	53 46	13 49.3
3	11½	19 5	13 44.7	3	11½	55 1	13 33.1
3	11½	20 39	13 36.4	3	11	9 57 35	13 41.3
3	11½	21 15	13 41.6	3	12	10 3 37	13 48.3
3	10	23 6	13 38.6	3	12	3 42	13 50.2
3	10½	23 14	13 45.2	3	11	5 28	13 49.8
3	11½	9 23 20	+13 46.9	3	12½	10 8 27	+13 45.7

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	9½	10 9 43	+13 51.5	3	12	10 24 52	+13 36.6
3	11½	13 58	13 41.0	3	11½	25 40	13 52.6
3	11	16 0	13 42.5	*	3	12	26 13	13 45.6
3	11½	16 34	13 49.8	3	12	27 46	13 45.2
3	12	19 1	13 52.0	3	12½	28 22	13 45.9
3	11	19 38	13 44.8	*	3	12½	30 47	13 48.4
3	11½	19 51	13 53.1	3	10	30 48	13 34.0
3	12½	21 9	13 36.0	3	12	31 4	13 44.6
3	11	21 24	13 40.2	3	12	33 16	13 36.4
3	11½	23 43	13 32.0	3	10	10 33 21	+13 42.6 *
3	12	10 24 46	+13 50.2				

* (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

468 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	12½	8 29 51	+15 11.2	18	11	8 35 59	+15 0.0
18	11½	29 52	15 12.2	18	10	36 6	14 58.1
18	12½	30 10	15 9.3	18	12	36 12	14 59.9
18	12	31 41	15 1.8	18	11½	36 27	14 56.0
18	12½	32 1	14 59.1	18	11	37 23	15 12.1
18	11	33 23	14 57.1	18	11	37 57	15 7.9
18	12	34 24	14 57.5	18	11½	37 57	15 1.7
18	11½	34 40	15 0.7	18	11	38 7	15 5.3
18	9½	35 22	15 15.9	18	12½	40 7	15 11.0
18	10	8 35 29	+15 6.3	18	12½	8 40 10	+15 8.6 †

† S. *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	12	8 42 40	+14 56.6	18	10	9 0 10	+15 7.7
18	11	42 43	15 1.9	18	12	0 11	15 4.5
18	11½	42 48	14 57.7	18	9	1 38	15 3.8†
18	11	43 44	15 8.8	18	11½	1 48	14 56.3
18	11	43 57	14 57.2	18	11	1 57	14 56.3
18	11½	45 9	15 2.6	18	12	3 0	14 59.1
18	10½	45 38	15 6.6	18	12	3 0	15 8.1
18	12	45 48	15 7.1	18	12	3 14	14 58.5
18	10	46 2	14 59.7	18	11	3 41	15 4.4
18	9½	46 32	15 3.9	18	11	4 2	15 1.3
18	12	47 5	15 6.9	18	11	4 9	15 8.5
18	12	47 16	15 4.6	18	10½	5 38	14 53.5
18	11	47 51	14 55.6	18	12	6 50	15 1.1
18	10	48 32	14 56.8	18	12	7 0	14 57.7
18	11	48 43	14 56.7	18	12	7 17	14 58.8
18	12	48 52	15 1.7	18	11	7 44	15 1.1
18	11½	49 52	14 57.3	18	11	8 17	14 57.4
18	12	49 58	14 54.1	18	11½	8 57	15 5.6
18	11½	51 10	14 58.4	18	11	9 23	14 58.2
18	12	51 35	15 6.7	18	11	9 33	15 7.6
18	12	52 33	15 5.4	18	11½	10 28	14 58.1
18	12½	52 42	15 10.5	18	11	10 48	15 1.8
18	11½	52 49	15 9.9	18	12½	10 58	15 8.3
18	11½	53 22	14 59.9	18	10½	11 46	14 55.9
18	11½	53 22	14 53.6	18	9½	13 6	15 0.1
18	12½	54 52	15 8.5	18	11½	13 32	14 56.2
18	12½	55 2	15 11.5	18	10½	13 38	14 53.6
18	10	55 59	14 53.7*	18	12	13 51	14 53.9
18	12	56 5	15 3.2	18	10½	14 22	15 11.5
18	12½	57 46	15 8.9	18	12	14 45	15 6.2
18	10	57 57	15 6.1	18	12	14 51	15 11.3
18	11½	58 18	15 5.5	18	11	15 37	15 8.6
18	11	58 21	15 1.0	18	12	17 43	15 11.3
18	11	59 29	15 8.2	18	12½	18 9	15 8.8
18	11½	8 59 31	+15 2.4	18	12½	9 18 36	+15 6.2

* L. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11	9 19 27	+15 1.7	3	11	9 37 30	+ 9 55.5
18	11	21 9	15 9.9	18	10	38 3	14 55.5
18	11½	21 10	14 57.7	3	12	38 32	9 55.2
18	12	23 14	15 6.5	18	11	38 36	14 51.5
18	11½	23 15	14 58.3	18	11½	38 40	14 58.2
18	11	23 39	15 2.1*	3	12	38 55	10 0.3
18	11½	23 54	15 2.4*	3	10	38 59	9 54.9
18	11½	24 40	14 57.9	3	10	39 28	10 5.9
18	10½	26 27	14 58.2	18	11	39 29	15 1.2
18	12	26 50	15 8.5	3	11½	39 33	9 56.2
3	11	28 36	10 12.2	18	12	39 42	15 10.3
3	10½	28 50	10 7.4†	3	11½	40 12	9 51.5
3	12	29 18	10 9.8	18	11	40 12	15 0.7
3	11	29 21	10 5.4	18	11	40 42	14 58.1
3	11	29 35	10 9.0	3	12½	41 44	9 54.1
3	11½	29 40	10 12.2	3	12½	42 10	10 10.6
18	11½	29 46	15 7.1‡	18	11½	42 24	15 10.9
3	11½	30 8	10 1.8	18	11½	42 28	15 1.8*
3	12	30 33	10 4.1	18	11½	42 36	14 58.2
3	11½	32 0	9 56.4	3	11½	42 55	10 7.4
3	11	32 39	9 58.7	18	10	43 4	15 1.7
18	12	32 42	14 54.8	3	11½	43 6	10 8.4†
3	11½	33 3	10 6.1	3	11½	43 12	10 11.0
3	11½	33 16	10 6.6	18	12	44 2	15 6.9
18	10	33 16	15 2.3	3	9	44 14	9 53.5
18	12	33 20	14 56.1	3	12	44 22	10 2.0
3	11	34 14	9 53.0	3	12	44 26	9 59.7
3	11½	34 44	9 57.1	18	11	44 35	15 5.8
18	11½	34 50	14 57.2	18	11½	44 37	15 0.9
18	10½	36 20	15 9.4	18	11½	45 4	15 2.3
3	10½	36 21	9 59.4	3	10½	45 5	10 0.0
3	10½	36 35	10 2.0*	3	11	45 11	9 54.4
18	11	36 35	15 16.2	18	10	45 28	15 1.2*
3	12	36 36	9 57.3	18	11½	45 31	15 5.3
3	11	9 37 26	+ 9 57.9	3	10	9 46 3	+10 0.7

* (4). † L. of double. ‡ N. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	9 46 37	+10 4.1	3	11½	10 0 32	+ 9 56.9
18	10½	46 44	15 11.9	18	11½	0 37	15 7.2
3	11½	46 46	10 4.5*	29	10	1 3	8 4.1
3	11½	46 50	10 7.0	29	12	1 4	8 10.9
3	11	47 4	9 59.9	29	10½	1 31	8 14.8
18	11	47 36	15 6.5	18	11½	1 35	14 54.7
18	12	47 41	15 2.2	18	11	1 45	15 2.5
3	11	47 57	10 10.5	18	11½	1 48	14 57.7
18	12	48 18	15 4.6	29	11	2 10	8 11.8
3	12½	48 59	10 6.4	29	11½	3 22	8 11.5
18	11½	49 28	15 0.3	29	11½	3 40	7 58.9
3	12½	50 12	9 54.0	3	12	3 43	9 58.7
3	11	50 32	9 54.4	29	9	3 44	7 55.5
18	10½	51 0	15 7.2	29	10	3 56	7 55.6
18	12	51 6	14 54.2	18	10	4 19	15 8.5
3	12	51 48	10 0.0	29	11½	4 43	8 7.6
3	12	52 1	10 1.4	29	9	4 56	8 7.4
18	10	52 12	15 10.0	29	12	5 2	8 7.7
18	11	52 33	14 59.5	29	11½	6 6	7 58.4
18	11½	52 34	14 56.9	29	11½	6 37	8 4.3‡
18	11½	52 54	15 0.3	29	10½	6 48	7 54.7
18	11½	53 0	15 2.1	29	11	7 52	7 57.6
18	11	54 47	15 7.1	29	11½	7 53	8 10.1
3	12½	56 3	10 12.3	29	11½	7 53	8 12.5
3	12½	56 10	10 7.0†	29	11½	8 50	8 11.6
3	12	57 53	10 11.0::	29	10	8 55	8 6.4
18	9½	58 31	15 10.4	29	11½	9 0	8 11.8
18	12	59 30	15 8.9	29	10	9 18	7 54.5
18	11	59 38	14 54.1	3	10	10 28	9 56.5
18	11	59 46	14 57.3	29	9½	10 30	8 8.3
3	11	59 54	9 56.2	29	11½	11 17	7 55.6§
29	10½	9 59 56	7 58.8	29	11	11 59	7 57.8
29	10	10 0 2	7 56.4	29	9	12 25	8 1.7
3	10½	0 9	10 5.9	29	11	12 44	8 5.4
29	10½	10 0 19	+ 7 55.2	3	9½	10 13 56	+ 9 59.8

* (4). † Double. ‡ S. *p.* of double. § *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10½	10 14 0	+ 7 51.4	29	11	10 29 32	+ 7 58.7
29	11	14 7	8 8.4	17	10	29 49	5 52.0‡
3	11½	14 35	10 10.3	29	10½	30 2	7 56.2
29	9½	14 38	8 11.1*	17	10	30 8	6 8.4
29	12	15 28	7 52.4	29	10½	31 20	8 12.8
3	12½	15 45	9 54.9	17	10½	31 37	6 0.3
29	11½	15 48	7 52.3	17	10½	31 51	5 58.4
3	12	15 49	9 54.1	17	11	32 56	5 59.0
3	10	16 7	10 1.1	17	11½	33 6	5 59.5
29	10	16 48	7 51.8	17	11	34 14	5 57.4
29	10	16 58	7 54.8	17	11½	34 16	6 7.4
29	11½	17 50	7 58.2	17	12½	34 44	5 59.4
29	10½	17 58	7 59.9	17	12	34 56	5 55.8
29	10½	18 39	8 10.8	17	11	35 19	5 58.1
29	11	18 48	7 54.3	17	12	35 35	6 10.2
29	11	20 8	8 8.6	17	12	36 39	5 56.4
29	11½	20 19	7 57.4	17	12½	37 3	5 56.8
29	12	21 16	8 0.5	17	12	37 28	5 57.4
29	12	21 26	8 1.1	17	12	37 31	5 58.8
29	12	21 35	8 9.6	17	11	38 32	6 4.8
29	11½	22 34	7 56.8	17	11	38 41	6 8.4
29	11	22 50	8 11.5	17	11½	39 7	5 59.0
29	9½	22 53	8 13.3	17	11	39 40	5 59.9
29	10	23 20	7 57.1	17	10½	40 3	6 1.7
29	12	24 33	7 55.4	17	11	40 4	5 59.9
29	11	24 42	7 59.5	17	11	40 5	6 10.7
29	12	24 59	7 54.9	17	11	40 42	6 5.8
29	10½	26 0	8 13.8	17	10½	41 7	6 3.1†
29	11	26 14	8 6.9	17	11½	42 58	6 5.7
29	11½	27 5	7 55.2	17	12½	43 6	6 2.5
17	11½	28 29	5 55.2	17	12	44 44	6 1.7
17	12½	29 4	5 56.9	17	11	45 1	5 59.0
29	11½	29 8	8 8.1	17	12½	46 6	5 58.9
17	12½	29 26	5 54.5	17	11½	47 3	6 6.7
29	11	10 29 27	+ 8 1.9†	17	11½	10 47 19	+ 6 13.6

* S. *p.* of double. † (4.) ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	12	10 47 52	+ 5 56.7	29	8	11 7 27	+ 7 51.4
17	12	47 55	5 55.9	29	12	7 29	7 55.5
17	12½	49 21	5 58.3	17	12	8 2	6 5.5
17	10	49 35	5 55.3 :	29	10½	8 19	7 55.2
17	12	50 12	5 57.8	17	12½	8 48	5 56.6
17	12½	50 17	5 57.7	29	10	9 4	8 0.8
17	12	50 19	5 59.5	29	9	9 8	8 13.9
17	12	51 33	5 54.3	29	10	9 25	8 2.5
17	11	52 19	5 59.5	17	12	9 37	6 5.6
17	12½	52 34	6 7.1	17	12	10 20	5 55.1
17	10½	53 15	6 4.7*	29	11½	10 37	7 52.4
17	12	53 39	6 6.9†	29	11½	11 3	7 55.8
17	11	55 28	5 59.9	17	12	11 7	5 58.2
17	10½	55 42	5 58.3	17	10	11 11	6 6.9
17	12	55 50	6 0.2	17	12	11 40	6 8.3
17	12	56 53	6 0.3	29	10½	12 0	8 9.4
17	12	57 2	5 59.4	29	11	12 0	8 2.9
17	10	57. 23	6 1.7	29	11	12 4	8 1.8
17	11½	10 59 1	6 2.6	29	10	12 6	8 3.5
17	12	11 0 44	6 3.8	17	11	12 17	6 2.1
17	11½	1 21	6 5.3*	29	11	12 37	7 59.6
17	12	1 32	6 7.5 :	17	11	13 8	5 57.4
17	12½	2 38	6 9.4	17	10½	13 31	5 59.1
17	12½	3 1	6 2.3	17	10½	13 52	6 12.7
17	10	3 6	6 2.0	29	11	13 53	8 14.8
17	12½	3 8	5 58.8	17	11	14 11	5 53.4
17	12½	4 20	6 8.5	29	11½	14 19	8 12.9
17	12	4 45	6 5.2	17	12	14 39	5 54.2
17	11½	5 11	5 57.9	17	12	14 42	5 58.4
29	11	6 4	7 52.2	29	12	15 27	7 53.2
29	11½	6 31	8 11.3	17	11½	15 50	6 9.7
17	11	6 38	6 4.4	29	10½	15 55	8 1.7*
17	11	7 20	6 5.5	17	12½	15 58	6 8.9
29	12	7 24	7 59.2	29	11½	15 59	7 56.9
29	12	11 7 25	+ 8 1.1	17	12½	11 16 14	+ 6 8.9

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	11	11 16 15	+ 7 59.2	29	12½	11 26 7	+ 7 59.3
17	12½	16 17	6 5.5	29	11	26 31	0.4
29	11	16 18	7 57.3	29	12	26 36	8 0.3
29	10	16 24	8 1.5	29	10½	26 46	8 5.8
17	11½	17 4	6 4.4	29	9½	27 39	8 0.5
29	11½	17 11	7 55.6	29	10½	27 49	8 6.7
17	11½	17 43	6 7.5	17	11½	28 4	6 4.9
29	9½	17 59	7 59.4	17	10½	28 15	5 58.8
29	9½	18 28	8 4.1	17	11	29 7	5 55.4
29	11½	18 40	8 2.4*	29	12½	29 10	7 57.0
17	11½	18 52	5 59.4	17	12	29 19	5 57.2
17	12	18 56	5 58.4	17	11½	29 36	6 1.4
17	12	19 3	5 57.4	29	11½	29 46	8 9.4
29	9½	19 17	8 6.6	17	12	29 51	6 8.3
17	12	20 12	5 57.1	29	10	29 57	8 10.3
17	10	20 22	5 56.7	29	11½	30 18	8 9.6
29	9	20 26	8 11.5	29	11	30 26	8 13.1
29	9	20 43	8 8.7†	29	10½	31 17	8 6.4
17	12½	21 29	5 56.1	17	12	31 18	5 57.3
29	11½	21 58	8 8.8	17	11½	31 39	5 58.1
29	11½	21 59	8 8.0	17	12	31 55	5 55.9
29	12	22 5	8 1.8*	29	11	31 56	8 5.6
17	12	22 12	5 53.4	29	11	32 14	8 10.2
29	11	22 16	7 55.8	29	10½	32 25	7 59.2
29	12½	23 29	8 14.9	17	12	32 48	6 5.0
17	12	23 41	5 57.2	17	12	32 55	6 2.8
29	11	23 57	8 11.2	17	11½	33 5	6 10.0
17	11	24 14	5 52.0	17	11½	33 36	6 1.7
29	11½	24 24	8 11.8	17	12	33 41	6 2.8
17	11½	24 25	5 55.8	17	10	34 3	6 1.5
29	9½	24 29	8 8.2	17	10	35 46	6 2.1
17	9½	25 6	6 6.3	17	10½	37 25	5 56.1
17	11	25 7	5 57.0	17	11	37 30	6 2.0
29	9	25 34	8 2.7*	17	11½	37 51	5 55.7
29	10	11 26 5	+ 8 0.1	17	11	11 37 59	+ 5 59.8‡

* (4). † Has a small companion. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	11	11 39 30	+ 6 5.8	17	12½	11 52 54	+ 6 12.2
17	12	40 46	5 56.5	17	12	53 0	6 12.2
17	12	41 13	6 6.1	17	12	53 37	6 10.1
17	12	41 42	5 56.2	17	12	54 24	6 9.0
17	11	42 25	6 4.8	17	12½	54 38	6 12.8
17	12	43 46	6 5.3	17	12	54 49	6 7.5
17	12	45 17	5 55.2	17	12	55 54	6 8.1
17	12	45 22	5 56.6	17	12	56 3	6 5.4
17	12	46 20	5 56.0	17	11	56 57	5 55.6
17	12	46 33	6 2.1*	17	10	57 58	6 4.4
17	11½	47 11	5 51.7	17	11½	11 59 49	6 12.0
17	11½	48 52	6 6.9	17	11	12 0 25	6 8.0
17	12	50 49	6 0.4	17	11½	0 27	5 51.5
17	10½	11 51 34	+ 5 54.5	17	11	12 1 3	+ 6 5.8

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

989 STARS NEAR THE ECLIPTIC,

OBSERVED IN APRIL, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11	11 26 55	— 1 15.2	26	11	11 30 19	— 1 4.9
26	11½	28 44	1 9.7	27	10	30 44	1 47.0
26	11	28 46	1 11.4	27	10	30 53	1 40.5
26	10	28 48	1 8.5	26	10½	30 57	1 20.9
26	10½	29 54	1 7.4	27	10	31 10	1 42.6
26	11	30 9	1 16.0*	27	10½	31 24	1 42.3
26	10½	11 30 12	— 1 5.2	26	9	11 31 42	— 1 8.8

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	10	11 32 3	— 1 13.7	27	11	11 41 37	— 1 31.5
27	12	32 5	1 34.4	26	10	41 53	1 18.3
26	11½	32 20	1 11.9	26	11½	42 8	1 20.7
26	9	32 33	1 5.5	27	10	42 11	1 41.4
27	9½	32 50	1 37.6*	26	10	42 12	1 23.7
27	12	33 24	1 42.6	27	11	42 43	1 40.5
26	11	33 49	1 13.3	27	11	43 0	1 29.7
26	11	34 2	1 20.0	27	11	43 11	1 31.5
26	11½	34 20	1 19.6	26	10	43 29	1 11.0
27	12	34 29	1 28.2	26	10½	43 36	1 13.2
26	11½	34 36	1 20.3	26	11	43 44	1 21.5
27	12	34 41	1 29.2	27	11½	43 48	1 29.0
26	10	35 25	1 25.3	26 27	11	44 30	1 25.6
26	9	36 5	1 10.5	27	11½	44 30	1 37.8
26	11	36 7	1 6.7	26 27	11	44 44	1 28.9
27	8½	36 10	1 30.8	26	11½	45 33	1 18.8
26	11	36 23	1 13.5	26	11½	45 47	1 8.9
27	11½	36 24	1 41.2	26	11	45 52	1 20.9
26	10½	36 49	1 22.0	26	9	45 57	1 10.2
26	9	37 20	1 17.0	27	9½	46 16	1 40.9
27	11	37 30	1 30.0	26	10	46 41	1 18.9
26	9½	37 44	1 18.6*	26	12	46 49	1 12.1
26	11	37 46	1 8.3	27	11½	47 19	1 42.5
27	11	38 5	1 28.0	26	12	47 22	1 21.7
27	11	38 7	1 36.6*	27	9	47 35	1 42.3
27	10	38 18	1 37.9*	26	9	48 9	1 20.6
27	11	38 18	1 30.6	26	12	48 33	1 13.2
27	12	39 33	1 42.0	26	12	48 41	1 14.3
26	11	40 9	1 13.3	27	11	48 44	1 33.6
26	11½	40 15	1 22.8	26	9½	48 46	1 13.2
27	11	40 22	1 26.7	27	11	48 49	1 34.0
26	11	40 24	1 13.0	27	10	48 52	1 26.4
27	11	41 11	1 43.3	27	11	48 56	1 40.1
26	10½	41 12	1 10.0	27	10	49 56	1 30.0
27	11	11 41 35	— 1 39.4	26	12	11 50 4	— 1 14.3

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	11½	11 50 16	— 1 44.9	13	12	11 59 31	— 5 32.5
26	11	50 24	1 12.5	13	10	11 59 42	5 29.8
26	10	50 26	1 9.2	26	12	12 0 6	1 11.3
26	11½	50 31	1 16.4*	13	10	0 8	5 38.6*
27	11½	50 40	1 47.8	13	11½	0 26	5 31.3
26	10	51 11	1 18.7	27	11	0 28	1 32.1
27	9½	51 28	1 47.6	13	12½	0 39	5 35.7
27	10	51 30	1 47.3	12	12	0 41	5 25.4
27	11½	51 36	1 40.1	27	11	0 47	1 31.9
27	11½	51 49	1 35.9	26	10	1 1	1 22.9
27	11½	51 55	1 36.6	27	11½	1 8	1 37.7
27	9½	52 14	1 37.1	13	11½	1 24	5 33.2
26	9	52 21	1 24.7	12	10	1 38	5 18.4
26 27	8½	53 46	1 23.4	12	11	1 46	5 22.3
27	11½	53 53	1 30.0	27	11½	1 54	1 27.9
26	11	54 5	1 10.0	26	9½	1 59	1 9.1
27	11½	54 51	1 28.5	12	10½	2 5	5 27.2
26	10½	55 2	1 15.1	13	10	2 5	5 29.8
27	11	55 3	1 27.3	27	9	2 6	1 32.4
26	9½	55 6	1 11.1	27	10	2 6	1 28.7
26	11	55 21	1 11.4	26	11½	2 14	1 14.5
26	10½	55 22	1 20.8	12 13	9½	2 27	5 27.5
27	12½	57 0	1 42.0	13	11	2 38	5 32.2
27	11	57 2	1 27.6	26	12	2 44	1 21.1
27	9	57 6	1 28.6	27	9	2 45	1 31.1
27	12	57 9	1 31.5	13	10½	2 59	5 45.7
26	12	57 10	1 13.2	12	12	3 7	5 10.8
26	12	57 18	1 13.4	27	11	3 18	1 35.0
26	10½	57 24	1 13.0	12	10½	3 19	5 9.0
26	10½	57 31	1 13.2	26	10	3 22	1 15.9
26	11½	57 43	1 8.6	12	11	3 23	5 12.8
27	10	58 6	1 41.7	27	11	3 42	1 37.0
26	9	58 8	1 16.6	12 13	10½	3 44	5 27.5
13	12½	58 17	5 36.4	13	11½	3 52	5 45.8
26 27	9½	11 58 17	— 1 26.2	12	12	12 4 28	— 5 24.4

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	10½	12 4 33	— 5 28.3	27	10	12 9 55	— 1 37.6*
27	11	4 41	1 34.7	12	12	10 6	5 10.8
12 13	10	4 44	5 30.7	27	10	10 18	1 39.0
13	12	4 58	5 30.2	12	12	10 45	5 11.8
26	12	5 27	1 23.9	12	12½	10 54	5 11.2
26	12	5 28	1 20.3	27	10	11 2	1 32.2
12	12	5 32	5 25.9	26	11	11 16	1 12.5
26	11	5 48	1 28.8	26	9	11 26	1 12.4
13	12½	6 2	5 42.8	26	11	11 27	1 20.1
12	10½	6 5	5 26.3	12	11	11 29	5 15.0
13	10½	6 7	5 39.8	26	10	11 40	1 14.0
26	11½	6 23	1 11.7	12	10½	11 41	5 9.3
13	12½	6 32	5 38.9	12	11½	11 44	5 22.3
13	11½	6 37	5 48.8	26 27	8	11 44	1 24.0
12	11½	6 43	5 26.2	12	11	11 47	5 12.0
12	12½	7 6	5 27.2	27	10½	11 47	1 31.9
27	12	7 6	1 31.4	27	10	11 56	1 37.2*
12	11½	7 12	5 20.0*	27	10	12 9	1 29.0
26	11½	7 12	1 21.5	27	10½	12 27	1 41.8
27	9½	7 21	1 39.1	12	11	12 45	5 10.8
26	11	7 23	1 22.3	12	12	12 46	5 9.0
26	11½	7 31	1 18.9	26	10	13 24	1 10.3
27	11½	7 36	1 30.6	26	11	13 27	1 17.6
27	11	7 38	1 35.9	26	11	13 39	1 12.4:
26	11½	7 45	1 15.6	26	11	13 52	1 8.8:
27	11	7 56	1 29.4	12	9½	14 2	5 20.1*
12	11	7 58	5 9.9	26	10	14 2	1 15.3
27	11	8 12	1 34.0	27	9½	14 11	1 47.1
26	11½	9 6	1 9.1	12	11½	14 18	5 12.8
26	11½	9 18	1 10.6	12	11½	14 18	5 27.8
27	11½	9 21	1 28.4	27	12	14 40	1 28.1
26	11½	9 23	1 11.2	12	11	15 1	5 20.5
26 27	11	9 42	1 24.2	26	11	15 21	1 15.9
12	12	9 47	5 11.9	12	12	15 30	5 27.3
26	9	12 9 51	— 1 13.4	27	11½	12 15 45	— 1 27.1

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	10	12 15 54	— 1 11.9	12	12	12 21 27	— 5 25.7
12	12	16 7	5 26.3	26	11	21 27	1 16.1
27	11	16 11	1 46.8	26	9½	21 32	1 22.9
26	11	16 23	1 21.8	13	11	21 36	5 39.3*
12	12	16 29	5 23.8	26	11	21 38	1 24.0
26	9½	17 9	1 14.7	27	12	22 4	1 43.1
26	11	17 11	1 11.0	13	11	22 23	5 32.7
27	9	17 16	1 30.3	12	10	22 26	5 21.9
27	12	17 22	1 31.2	12	11	22 57	5 13.5
27	12½	17 36	1 30.1	13	11½	23 10	5 42.2
12	10	17 44	5 23.3	27	10½	23 11	1 35.2*
27	12	17 56	1 31.8	13	11	23 18	5 36.6
12	10½	18 6	5 24.9	27	10½	23 22	1 41.9
12	11	18 9	5 21.4	13	12	23 26	5 42.5
27	11	18 20	1 35.9	26	11½	23 28	1 12.2
12	11	18 25	5 11.0	26	9½	23 31	1 19.0
26	10	18 31	1 17.0	26	12	23 33	1 9.0
12	10	18 46	5 12.4	27	10½	23 37	1 35.2*
26 27	9½	18 47	1 26.4	27	10½	23 53	1 35.3*
12	11	19 12	5 24.8	12	12	23 58	5 12.6
12	10½	19 20	5 24.7	12	11	24 4	5 9.0
26	12	19 37	1 6.6	27	10	24 14	1 35.0*
26	12	19 49	1 24.6	13	12	24 20	5 45.5
13	10	20 18	5 49.6	12	12	24 29	5 15.6
27	11½	20 18	1 34.0	13	12	24 31	5 46.3
26	12	20 19	1 24.0	12	10½	24 48	5 16.1
12	12	20 23	5 27.8	12	12	25 1	5 14.5
12	12	20 30	5 26.9	13	12½	25 12	5 44.8
26	11	20 31	1 23.2	13	12	25 20	5 43.0
26	11	20 32	1 21.1	13	12	25 29	5 45.4
12	12½	21 11	5 23.6	13	9½	25 47	5 43.8
27	11	21 13	1 44.1	13	12	25 48	5 36.4
27	11½	21 16	1 42.5	13	12	26 0	5 36.8
13	10	21 18	5 45.7	27	9½	26 4	1 30.2
13	11	12 21 24	— 5 31.6	26	12	12 26 6	— 1 11.6

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	12	12 26 24	— 5 11.7	26	11	12 31 27	— 1 26.1
26	11	26 26	1 10.6	13	10½	31 39	5 46.4
12	11	26 27	5 20.8	12	10	31 41	5 23.7
13	11½	26 30	5 35.7	13	12	31 44	5 34.6
26 27	10½	26 50	1 24.0	13	11	32 32	5 49.7
27	10	26 55	1 26.8	26	12	32 41	1 10.2
12	11½	26 58	5 20.3	13	11	32 45	5 45.4
27	10	27 0	1 35.0	26	12	32 52	1 14.5
12	11	27 2	5 25.4	13	11	33 13	5 28.1
26	10½	27 3	1 24.7	26	11½	33 18	1 24.0
26	10	27 9	1 14.8*	12	11	33 28	5 19.0
27	10	27 19	1 42.5	26	9½	33 36	1 17.0
27	10½	27 47	1 33.7	12	12	33 38	5 24.8
26	10	27 52	1 20.3	27	11	33 44	1 28.2
26	11	27 54	1 15.3	26	9	33 49	1 8.2
12	11½	28 7	5 6.1	27	10½	33 50	1 38.0
12	10½	28 11	5 8.9	12	12	34 0	5 24.4
13	10	28 30	5 35.0	26	9½	34 15	1 24.3
13	12	28 36	5 42.5	27	9½	34 15	1 43.6
27	11	28 45	1 35.9	13	12	34 34	5 42.4
13	12	28 55	5 38.8†	27	11	34 34	1 40.6
26	11½	29 29	1 21.6	13	12	34 35	5 40.4
26	11	29 50	1 19.2	13	10½	34 35	5 46.2
26	11	29 55	1 25.2	27	12	34 39	1 39.9
12	12	30 3	5 13.3	13	11	34 40	5 31.2
27	10½	30 11	1 35.9	12	10½	34 48	5 26.5
12	11½	30 15	5 10.2	12	11½	35 11	5 21.3
27	12½	30 20	1 39.9	26	9	35 16	1 25.7‡
27	10	30 20	1 44.5	26	9	35 19	1 9.9
13	10	30 23	5 46.0	27	11	35 26	1 33.2
27	11½	30 35	1 38.1	12	11	35 32	5 19.6†
13	12	30 41	5 44.6	13	12	35 34	5 44.5§
26	10	30 50	1 23.9	26	10½	35 36	1 15.3
12	12	31 3	5 13.1	27	10	35 37	1 38.4
13	12	12 31 27	— 5 28.2	13	11½	12 35 43	— 5 47.1

* A 10½ S. † (4). ‡ *p.* of double. § L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
27	11	12 35 43	— 1 36.5	27	11½	12 40 9	— 1 34.4
12	11	35 47	5 26.2	12	11	40 17	5 11.4
26	9	36 14	1 8.9	12	11	40 58	5 20.4
26	11	36 18	1 18.8	13	12	41 0	5 30.1
13	11½	36 47	5 46.6	12	12½	41 5	5 25.6
13	12	36 48	5 41.5	27	11	41 28	1 30.6
13	11	36 48	5 44.6	27	9½	41 30	1 32.6
12	12	36 54	5 25.1	27	11½	41 48	1 32.9
12	12½	36 58	5 25.7	13	11½	41 52	5 32.2
27	12	37 5	1 29.8	13	11	41 56	5 47.0
27	11½	37 17	1 30.0	26	9½	42 18	1 11.2
26	11	37 21	1 12.1	13	10½	42 24	5 45.1
26	11	37 25	1 9.5	26	9½	42 34	1 22.9
26	12	37 26	1 25.4	26	11½	42 44	1 18.3
27	11½	37 32	1 30.2	12	12	42 56	5 13.5:
13	12	37 43	5 45.2	26	11½	43 1	1 22.3
13	12	37 47	5 42.7	27	11	43 6	1 37.0
26 27	10½	37 53	1 27.8*	27	11½	43 12	1 37.9
27	12	37 54	1 31.0	27	9½	43 22	1 33.9†
13	11½	38 2	5 44.8	27	11½	43 31	1 34.2†
26	11½	38 12	1 27.4	13	10½	43 33	5 41.5
12	12	38 14	5 23.2	13	9½	43 49	5 31.4
12	11	38 29	5 10.6	26	11½	44 14	1 22.3
27	11	38 32	1 31.8	26	10½	44 27	1 10.5
12	12	38 41	5 22.0	26	11	44 29	1 12.8
26 27	10½	38 43	1 24.2	13	11	44 35	5 47.2
13	11	38 48	5 29.1	27	12	44 47	1 43.5
13	12½	38 55	5 33.7	13	12½	45 18	5 39.1
13	11	39 5	5 35.3	12	10½	45 21	5 12.0
12	12	39 13	5 13.1	13	12½	45 24	5 43.7
13	11	39 21	5 31.5	27	11	45 25	1 29.4
12	11	39 25	5 13.7	26	9	45 26	1 9.8
27	12½	39 43	1 38.5	12	11	45 35	5 8.0
27	12½	39 44	1 43.0	26	11½	45 38	1 12.9
12	11	12 39 48	— 5 14.9	27	10½	12 45 38	— 1 30.2

* Close double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	11	12 45 41	— 1 28.0	26	11	12 51 51	— 1 11.3
26	11½	46 4	1 22.2	27	11	52 12	1 38.3
12	11½	46 10	5 8.5	13	12	52 19	5 36.6
26	11	46 14	1 18.0	27	11½	52 20	1 39.7
26	10	46 23	1 19.8	13	12	52 27	5 42.7
26	11	46 24	1 10.7	27	11	52 27	1 43.2
13	11	46 25	5 44.6	26	11	52 29	1 26.3
27	12	46 26	1 41.1	13	12	52 43	5 35.7
12	10½	46 35	5 6.3	12	11	52 47	5 15.7
27	11½	46 38	1 41.8	13	10½	52 53	5 45.2
27	11½	46 58	1 44.8	13	12	53 1	5 35.1
13	10½	47 14	5 30.8	12	11	53 7	5 16.6*
12	12	47 19	5 19.3	12	10½	53 13	5 23.4
12	12	47 20	5 24.4	27	9½	53 50	1 32.5
12	12	47 37	5 24.2	13	11	53 55	5 46.8
26	10	47 44	1 11.3 :	27	9½	54 3	1 34.4*
13	9	47 46	5 30.7	26	12	54 12	1 8.0
26	10½	47 51	1 24.4	13	11½	54 17	5 48.8
13	12½	48 10	5 45.9	26	12	54 19	1 15.6*
12	10	48 11	5 15.1	27	11	54 23	1 44.1
26	10½	48 18	1 11.9	26	11	54 31	1 16.3*
12	11	48 22	5 9.0	12	12½	54 44	5 21.8
26	9	48 45	1 14.3	27	11	54 45	1 43.0
12	12½	49 15	5 12.1	26	12½	54 53	1 15.5
12	11	49 24	5 9.1	13	12	55 2	5 45.0
12	12	49 39	5 15.4	26	11	55 6	1 10.5†
12	11	49 43	5 7.5	12	10	55 15	5 13.8
26	9	49 49	1 9.7	13	12	55 16	5 44.4
27	9	50 56	1 42.1	27	11	55 24	1 44.2
13	12	51 3	5 32.9	12	11½	55 55	5 20.3
26	11	51 15	1 12.5	27	11	56 19	1 32.1
13	12	51 42	5 46.2	27	10½	56 28	1 33.4
13	9½	51 44	5 34.7	27	12½	56 39	1 33.2
27	12½	51 47	1 31.8	12	12	56 47	5 24.9‡
12	12	12 51 50	— 5 11.9	27	12½	12 56 50	— 1 32.4

* (4). † Double. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	9	12 57 6	— 1 33.6	12	12½	13 3 40	— 5 11.9
12	10½	57 15	5 15.5	26	11½	3 53	1 22.4
27	11½	57 27	1 36.7	26	12	4 6	1 18.4
26	9½	57 30	1 19.6	12	12	4 12	5 14.5
26	11	57 32	1 20.8	12	9	4 29	5 8.9
26	10	57 50	1 19.4	12	10½	4 51	5 16.4
12	11½	57 59	5 22.6*	12	9	5 12	5 16.3
26	12	58 18	1 20.3	13	11	5 12	5 42.2
27	11½	58 41	1 44.1	13	11½	5 13	5 36.1
27	10	58 47	1 28.7	13	11½	5 18	5 42.3
12	10	59 2	5 8.9	12	9	5 34	5 14.1
12	11	59 44	5 13.5	13	11	6 23	5 35.9
27	10	59 54	1 36.7†	13	11	6 51	5 42.2
27	11½	12 59 56	1 33.3	12	10½	6 58	5 11.3
26	12	13 0 1	1 7.5	13	12½	7 46	5 45.2
26	12	0 6	1 10.7	13	12	8 1	5 45.1
26	11½	0 7	1 14.0	13	11	8 2	5 44.4
27	11½	0 12	1 37.1	12	11	8 36	5 8.1
26	9½	0 26	1 10.2	12	12	8 42	5 13.4
26	10½	0 41	1 12.7	12	11	8 50	5 9.3
26	11	1 2	1 16.0	13	12	9 12	5 31.3
27	10	1 9	1 23.6	12	12½	9 32	5 9.4
27	10½	1 15	1 30.1	12	12	10 8	5 25.4
12	9½	1 54	5 15.5	12	12	10 16	5 22.5
26	11½	1 54	1 12.5	13	10	10 20	5 33.2
26	11½	1 56	1 13.0	12 13	11	10 22	5 30.7
12	11	2 16	5 14.9	13	10	11 18	5 28.9
12	11	2 17	5 12.1	12	9½	11 23	5 13.9
26 27	9	2 19	1 23.7	13	12	12 0	5 46.1
27	10	2 27	1 34.2†	12	11	12 44	5 21.1
12	11	2 37	5 17.8	12	12½	12 57	5 20.9
27	11	2 41	1 35.1‡	13	11½	13 12	5 36.8
12	12	3 28	5 12.9	13	–	13 16	5 37.0:
26	12½	3 32	1 21.2	12	11	13 25	5 9.6
27	10	13 3 39	— 1 36.6†	13	11½	13 13 27	— 5 41.1

* S. *p.* of double. † (4). ‡ (4). L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
12	12	13 14 4	— 5 28.8*	12	11½	13 24 21	— 5 14.3
13	11	14 6	5 43.4	13	11	24 43	5 40.2
12	12	14 55	5 24.8	12	11½	24 51	5 11 4
12	11½	15 17	5 23.6	12	11	25 25	5 21.8
13	11	15 46	5 43.2	12	11	25 53	5 9.9
12	11½	16 10	5 25.4	12	12	26 3	5 12.7
13	11	16 17	5 41.3	13	11½	26 12	5 35.2
13	12	16 20	5 42.3	13	11½	26 15	5 28.8
12	11½	16 29	5 25.4	12	10½	26 45	5 24.9†
12	11½	17 3	5 27.5	13	10½	26 47	5 32.0
12	10½	17 47	5 8.1	12 13	11	27 1	5 28.8
13	11	17 51	5 35.1	12	9½	27 7	5 20.5
12 13	11	18 16	5 26.3	13	11	27 46	5 45.2
12	11	18 22	5 27.5	13	11	28 35	5 42.2
12	11	19 8	5 12.1	12	10½	28 37	5 8.8
12	11½	19 59	5 12.1	26	11	28 44	14 25.7
13	10½	20 7	5 34.5	13	9½	28 59	5 47.3
13	11	20 8	5 32.0	26	11½	29 28	14 14.2
13	10½	20 25	5 30.3	13	11	29 29	5 29.2
12	10½	20 34	5 15.3	27	10½	29 31	14 35.9
12	9½	20 53	5 26.5	13	12	29 34	5 43.0
12	11½	21 12	5 43.4	27	11	29 37	14 29.4
12	12	21 16	5 42.9	26	10½	29 43	14 27.8
12	12	21 18	5 43.4	26	12	29 45	14 22.5
12	11½	21 30	5 41.5	27	9	29 56	14 32.2
12	11½	21 33	5 44.8	12	12	30 12	5 24.4
12	11	21 39	5 14.4	26	10	30 13	14 9.6
13	11	22 21	5 45.9	26	10½	30 14	14 26.9
12	11	22 49	5 26.2	13	10½	30 17	5 34.7
12	10½	22 49	5 19.3	13	12	30 27	5 36.7
12	10	23 30	5 24.2	13	11	30 30	5 49.3
13	11	23 37	5 29.0	12	11½	30 32	5 22.2
13	11½	23 41	5 29 5	12	12	30 33	5 26.3
13	12	23 46	5 34.4	13	12	30 36	5 42.6
13	12	13 24 8	— 5 36.9	13	11½	13 30 38	— 5 36.1

* *p.* of double. † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	12½	12 30 41	— 5 22.4	27	11	13 35 24	—14 40.7†
27	11	30 44	14 38.6	26	10	35 59	14 9.5
12	10	31 8	5 28.0	27	9½	36 20	14 35.6
26	12	31 11	14 23.5	27	11	36 47	14 42.6
27	12	31 14	14 40.7	26	10	36 53	14 20.8
27	12½	31 14	14 41.3	26	11	37 18	14 13.7
26	12	31 29	14 22.2	26	11½	37 24	14 25.1
13	10	31 56	5 34.1	27	11	37 51	14 41.2§
26	12	32 8	14 14.0	26 27	10	38 5	14 26.4
26	11½	32 15	14 7.1	26	11½	38 32	14 24.1
13	10½	32 16	5 34.3	26	9½	38 36	14 21.0
13	10½	32 20	5 45.0	27	11½	39 12	14 34.0
12	11½	32 26	5 20.0	26	10	39 23	14 24.2
12	12	32 42	5 26.3:	27	11½	39 29	14 44.8
27	10	32 44	14 33.0	27	10½	39 55	14 36.7‡
12	11½	32 45	5 24.8	26	10½	40 6	14 24.6
12 13	10	32 47	5 30.7	26	11	40 27	14 15.7
27	9½	32 49	14 40.4	26	11	40 47	14 20.7‡
27	11	33 8	14 40.5	27	10½	41 6	14 29.0
13	9½	33 14	5 35.3	27	10	41 50	14 38.3‡
27	11	33 15	14 43.8	26	10	41 54	14 9.9
27	10½	33 22	14 41.3	26	11½	43 18	14 10.0
13	10	33 28	5 32.0	27	9	43 20	14 31.4
26	12	33 28	14 21.2	26	10½	43 42	14 15.5
12	10½	33 35	5 11.5	27	9½	44 7	14 34.3
26	11	33 38	14 21.3	26	12	44 12	14 21.5
26	11	33 47	14 26.4	26 27	9½	44 13	14 24.9
26	10	34 2	14 21.6:	26	11½	44 19	14 26.7
12	11½	34 15	5 23.3	27	11½	44 22	14 25.9
12	10	34 35	5 11.9	26	12	45 17	14 12.3
12	10	34 44	5 18.0	26	12	45 58	14 28.0
26	8	34 47	14 17.7*	27	12½	46 13	14 31.3
26	11	35 2	14 21.3†	27	12½	46 21	14 31.9
27	11	35 13	14 30.3	26	12	47 9	14 26.8
27	11	13 35 14	—14 36.3‡	26	12	13 47 22	—14 19.9

* An 8th near in Weisse. † L. of double. ‡ (4). § Small star S.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	12½	13 47 44	—14 42.0	26	12	13 59 3	—14 27.2
26	11	48 57	14 20.3	27	11	59 3	14 31.4
26	12	49 5	14 20.6	27	11	59 4	14 29.7
26	12½	49 15	14 23.0	26	11½	59 24	14 23.0
26	12	49 35	14 21.2	26	11	59 25	14 26.3
27	12½	49 51	14 34.9	26 27	11	13 59 36	14 25.7
26	10	49 59	14 10.9	26	12	14 0 13	14 25.4
27	11½	50 1	14 35.8	26	10½	0 23	14 26.3
27	11½	50 9	14 41.2	27	11	0 58	14 28.3
27	10	50 26	14 32.3	26	11½	1 31	14 10.5
26	11½	50 42	14 9.9	27	11½	1 57	14 34.9
27	12½	50 47	14 38.7	26	11½	2 0	14 10.1
26	11	50 55	14 13.7	27	10	2 12	14 39.9
26	11	51 18	14 10.1	26	11	2 20	14 9.8
26	12	51 31	14 10.5	26	12	3 13	14 18.2
26	12½	52 31	14 13.8	26	11½	5 17	14 7.6
26	12½	52 35	14 13.2	26	12	5 34	14 18.1
27	12	52 51	14 40.8	27	12	5 40	14 42.6
27	12½	53 0	14 40.1	26	10½	6 53	14 11.6
26	11½	53 15	14 19.6	26	11	7 2	14 12.1‡
27	10½	53 24	14 45.2	27	10	7 29	14 28.0
26	11	53 56	14 22.0	27	10	7 51	14 34.8
26	11½	54 4	14 20.5	27	11½	9 22	14 29.3
27	10	55 11	14 39.3*	26	11½	9 23	14 26.8
26	12	55 14	14 14.9	26	11½	9 57	14 17.1
27	10½	55 17	14 32.5	26	11	10 0	14 15.4
27	11	55 23	14 40.3	27	12	10 16	14 49.6
26	11½	55 40	14 12.5	27	11½	10 55	14 31.2§
27	11	56 55	14 45.8	26	12	11 35	14 17.3
26	9½	57 7	14 23.7	27	10	12 19	14 31.3
27	11½	57 9	14 33.3†	26	11	12 20	14 11.5
27	8	57 41	14 31.5	26 27	10½	13 40	14 29.9
26 27	11½	57 59	14 31.4	27	12	13 40	14 43.2
27	9	58 6	14 32.3	26	12½	13 56	14 17.7
26 27	9½	13 58 16	—14 28.5	27	10½	14 14 3	—14 45.5

* (4). † N. *f.* of double. ‡ A small star N. § L. of coarse cluster.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	10½	14 14 4	—14 42.2	27	12	14 28 27	—14 26.2
26	12½	14 14	14 13.3	26	12	28 28	14 17.9
27	11	14 40	14 32.1	26	11	28 38	14 19.9*
26	10	15 11	14 36.6	26	12	30 11	14 24.8
26	12	15 22	14 23.8	27	12	30 11	14 45.5
26	9	15 41	14 16.5	26	11	30 26	14 24.3
26	11½	16 4	14 10.5	27	12	30 44	14 28.5
27	12	16 12	14 34.3	27	12	32 13	14 30.6
26	11½	16 15	14 14.3	26	12	32 38	14 10.4
26	10½	17 0	14 9.8	26	11	32 45	14 7.4
27	11½	17 13	14 29.8	27	12½	33 49	14 29.2†
26	12	17 35	14 27.2	26	11½	34 21	14 14.2
26	12	17 46	14 22.4	26	11½	34 31	14 25.1
26	12	17 56	14 27.5	27	11½	34 35	14 29.5
26 27	11	18 14	14 26.7	27	11½	35 19	14 40.2
26	10	18 53	14 24.1	26 27	10½	35 26	14 25.5
27	12	19 33	14 35.2	26	11½	35 59	14 23.0
26	10½	20 24	14 22.6	26	11	36 20	14 12.1
27	11	20 25	14 29.8	26	11½	36 24	14 14.9
26	12	20 51	14 19.9	27	10½	36 32	14 29.4
26	12	21 33	14 10.6	26	10	36 39	14 13.8
27	11½	21 37	14 30.7	27	11	36 55	14 28.3
26	11½	23 45	14 8.4	27	10	38 4	14 35.9
27	11	23 48	14 40.3	26	12	38 7	14 24.1
26	12	23 52	14 14.2	27	11	40 47	14 44.1
26	11	23 59	14 12.8	26	11	41 7	14 28.2
26	11	24 53	14 20.5	26	11½	41 47	14 23.7
26	9½	25 17	14 20.4:*	26	11½	42 3	14 14.7
26	11	25 27	14 26.8	26	10½	42 11	14 11.2
27	11½	25 59	14 39.2	26	11	42 15	14 15.6
27	11½	26 11	14 38.2	27	11	42 34	14 38.4
26	10½	26 40	14 8.4	27	10½	42 51	14 36.1
26	12	27 11	14 12.3	27	10½	43 2	14 36.5
26	9½	28 5	14 20.8*	26	10	43 32	14 23.1:
26	11½	14 28 15	—14 13.9	26	12	14 44 18	—14 11.0

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
26	11	14 44 39	—14 20.3
26	11	44 48	14 20.2
26	11	45 15	14 21.2
26	11½	45 23	14 19.8
27	11	45 51	14 34.0
27	11	46 3	14 28.6
26	11	46 28	14 11.9
27	11	46 52	14 41.2
26	9½	47 17	14 7.5:
26	11½	47 34	14 11.6:
27	11	48 34	14 32.9
27	12	48 36	14 32.3
27	8½	48 41	14 26.5
27	9½	48 56	14 35.6*
26	10½	49 13	14 18.1*
26 27	10	49 16	14 28.6:
26	11	50 24	14 21.3
27	11½	51 3	14 36.0
27	12	51 33	14 34.0
26	11½	52 52	14 23.8
26	11½	53 12	14 15.3
26	11	53 36	14 11.0
27	12	54 9	14 35.7
26	11	55 22	14 24.0
26	11	55 23	14 25.8
27	10½	55 36	14 41.1
26	10½	56 5	14 27.5
26	11	56 38	14 7.6
27	10½	57 3	14 28.8
26	11	57 6	14 10.0
26	11½	57 33	14 14.9
27	11½	58 58	14 39.5
27	11½	14 59 9	14 44.5
27	10	15 0 15	14 49.7
26	10½	15 0 31	—14 16.7

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
27	9½	15 0 38	—14 46.1
26	11	1 8	14 24.7
27	12	1 31	14 31.5
26	11	1 34	14 17.6
27	10½	1 43	14 32.3
27	11	1 47	14 33.1
26	11	1 50	14 6.5
26	11	2 31	14 26.8
26	12	3 28	14 13.2
26	12	3 36	14 9.5
26	10½	4 39	14 6.7
26	11½	4 53	14 18.9
27	12	4 54	14 29.6
27	12	5 0	14 31.0
26	10½	5 20	14 13.0
27	10	7 10	14 30.0
26	11	7 21	14 16.0
26	12	7 33	14 16.0
26	11	7 57	14 20.9
26	10	11 52	14 8.6
27	10½	12 5	14 37.1*
26	11	12 31	14 18.9
27	11½	12 49	14 35.3
26	11½	14 51	14 16.8
26	11	16 18	14 25.8
26	11½	17 1	14 21.0
27	11½	17 51	14 36.6
27	11½	18 4	14 35.1
27	12	18 13	14 33.3
27	12	18 14	14 34.4
26 27	7½	19 20	14 25.7
26	10½	20 6	14 13.0
26	11½	20 38	14 12.6
27	12½	22 27	14 29.4
27	11	15 23 40	—14 39.8

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	11	15 23 51	—14 36.2	27	11	16 1 4	—17 49.9
27	10	23 54	14 29.8	27	11	1 17	17 52.6
26	11	25 26	14 10.8	27	8	3 24	17 50.1
27	10	25 35	14 36.4	27	12	7 42	18 5.1
26	12	27 20	14 15.0	27	10	8 20	17 57.7*
26	11½	27 38	14 19.0	27	10½	8 29	18 5.5
27	12	28 13	14 36.4	27	10	9 13	17 42.0
27	11½	28 31	14 29.8	27	12	10 47	18 6.4
27	12	28 36	14 32.8	27	11½	10 49	17 59.8*
27	12	28 40	14 36.8	27	11½	11 51	17 51.3
26	11	28 59	14 7.0	27	11½	12 26	17 51.3
27	10½	29 48	14 32.9	27	12	12 54	17 50.1
27	10	29 59	14 42.7	27	12	13 5	17 51.9
26	11	30 49	14 17.4	27	11½	14 19	17 51.1
26	10½	31 0	14 18.1*	27	12	14 29	17 57.7
26	11	31 19	14 25.4	27	11	16 4	17 59.2
27	12	31 28	14 42.4	27	12	18 34	18 4.8
27	10½	31 53	14 41.6	27	10½	18 42	17 56.6
27	11½	32 16	14 30.1	27	10½	20 32	17 51.4
26	10	32 39	14 20.1†	27	11	20 48	17 48.7
26 27	10	32 50	14 28.4	27	11	22 59	17 52.6
27	10½	34 2	14 36.5	27	11½	23 10	17 48.2
27	10½	34 18	14 39.8	27	10	23 36	17 57.3
26	11	34 23	14 20.7	27	11½	24 31	17 51.1
27	12½	56 2	17 57.2	27	12	29 54	17 52.7
27	11	57 35	17 49.7	27	11½	30 40	17 53.2
27	11	57 49	17 54.4	27	12	30 46	17 51.3
27	11½	57 58	17 54.4	27	11	31 47	18 7.5
27	11	57 59	17 58.4	27	11	32 45	17 50.3
27	11	15 59 21	18 2.6	27	11	33 31	17 55.6
27	11½	16 0 34	17 55.7	27	12	34 25	18 0.5*
27	11½	16 0 39	—17 53.9	27	9	16 35 13	—17 53.1

* (4). † f. of close double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	11	12 45 41	— 1 28.0	26	11	12 51 51	— 1 11.3
26	11½	46 4	1 22.2	27	11	52 12	1 38.3
12	11½	46 10	5 8.5	13	12	52 19	5 36.6
26	11	46 14	1 18.0	27	11½	52 20	1 39.7
26	10	46 23	1 19.8	13	12	52 27	5 42.7
26	11	46 24	1 10.7	27	11	52 27	1 43.2
13	11	46 25	5 44.6	26	11	52 29	1 26.3
27	12	46 26	1 41.1	13	12	52 43	5 35.7
12	10½	46 35	5 6.3	12	11	52 47	5 15.7
27	11½	46 38	1 41.8	13	10½	52 53	5 45.2
27	11½	46 58	1 44.8	13	12	53 1	5 35.1
13	10½	47 14	5 30.8	12	11	53 7	5 16.6*
12	12	47 19	5 19.3	12	10½	53 13	5 23.4
12	12	47 20	5 24.4	27	9½	53 50	1 32.5
12	12	47 37	5 24.2	13	11	53 55	5 46.8
26	10	47 44	1 11.3 :	27	9½	54 3	1 34.4*
13	9	47 46	5 30.7	26	12	54 12	1 8.0
26	10½	47 51	1 24.4	13	11½	54 17	5 48.8
13	12½	48 10	5 45.9	26	12	54 19	1 15.6*
12	10	48 11	5 15.1	27	11	54 23	1 44.1
26	10½	48 18	1 11.9	26	11	54 31	1 16.3*
12	11	48 22	5 9.0	12	12½	54 44	5 21.8
26	9	48 45	1 14.3	27	11	54 45	1 43.0
12	12½	49 15	5 12.1	26	12½	54 53	1 15.5
12	11	49 24	5 9.1	13	12	55 2	5 45.0
12	12	49 39	5 15.4	26	11	55 6	1 10.5†
12	11	49 43	5 7.5	12	10	55 15	5 13.8
26	9	49 49	1 9.7	13	12	55 16	5 44.4
27	9	50 56	1 42.1	27	11	55 24	1 44.2
13	12	51 3	5 32.9	12	11½	55 55	5 20.3
26	11	51 15	1 12.5	27	11	56 19	1 32.1
13	12	51 42	5 46.2	27	10½	56 28	1 33.4
13	9½	51 44	5 34.7	27	12½	56 39	1 33.2
27	12½	51 47	1 31.8	12	12	56 47	5 24.9‡
12	12	12 51 50	— 5 11.9	27	12½	12 56 50	— 1 32.4

* (4). † Double. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	9	12 57 6	— 1 33.6	12	12½	13 3 40	— 5 11.9
12	10½	57 15	5 15.5	26	11½	3 53	1 22.4
27	11½	57 27	1 36.7	26	12	4 6	1 18.4
26	9½	57 30	1 19.6	12	12	4 12	5 14.5
26	11	57 32	1 20.8	12	9	4 29	5 8.9
26	10	57 50	1 19.4	12	10½	4 51	5 16.4
12	11½	57 59	5 22.6*	12	9	5 12	5 16.3
26	12	58 18	1 20.3	13	11	5 12	5 42.2
27	11½	58 41	1 44.1	13	11½	5 13	5 36.1
27	10	58 47	1 28.7	13	11½	5 18	5 42.3
12	10	59 2	5 8.9	12	9	5 34	5 14.1
12	11	59 44	5 13.5	13	11	6 23	5 35.9
27	10	59 54	1 36.7†	13	11	6 51	5 42.2
27	11½	12 59 56	1 33.3	12	10½	6 58	5 11.3
26	12	13 0 1	1 7.5	13	12½	7 46	5 45.2
26	12	0 6	1 10.7	13	12	8 1	5 45.1
26	11½	0 7	1 14.0	13	11	8 2	5 44.4
27	11½	0 12	1 37.1	12	11	8 36	5 8.1
26	9½	0 26	1 19.2	12	12	8 42	5 13.4
26	10½	0 41	1 12.7	12	11	8 50	5 9.3
26	11	1 2	1 16.0	13	12	9 12	5 31.3
27	10	1 9	1 23.6	12	12½	9 32	5 9.4
27	10½	1 15	1 30.1	12	12	10 8	5 25.4
12	9½	1 54	5 15.5	12	12	10 16	5 22.5
26	11½	1 54	1 12.5	13	10	10 20	5 33.2
26	11½	1 56	1 13.0	12 13	11	10 22	5 30.7
12	11	2 16	5 14.9	13	10	11 18	5 28.9
12	11	2 17	5 12.1	12	9½	11 23	5 13.9
26 27	9	2 19	1 23.7	13	12	12 0	5 46.1
27	10	2 27	1 34.2†	12	11	12 44	5 21.1
12	11	2 37	5 17.8	12	12½	12 57	5 20.9
27	11	2 41	1 35.1‡	13	11½	13 12	5 36.8
12	12	3 28	5 12.9	13	—	13 16	5 37.0:
26	12½	3 32	1 21.2	12	11	13 25	5 9.6
27	10	13 3 39	— 1 36.6†	13	11½	13 13 27	— 5 41.1

* S. *p.* of double. † (4). ‡ (4). L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
11	10½	13 18 8	—11 37.1*	10	10½	13 29 9	— 8 38.1
11	11	18 13	11 33.6	10	12	29 31	8 35.3
11	10½	19 40	11 32.1	10	12½	29 35	8 36.9
11	9½	19 47	11 35.4	9	10	29 39	13 34.1
11	11	20 36	11 34.8	9	11½	30 0	13 32.4
11	10½	20 46	11 38.6	9	12	30 12	13 36.9
10	9½	20 47	8 31.8	9	12	30 20	13 33.9
11	9½	20 47	11 36.3	10	11½	30 25	8 45.7
11	10	21 13	11 36.9*	5	10	30 27	14 4.5
11	12	21 18	11 36.1	9	12	30 27	13 34.3
10	10½	21 39	8 34.3	9	12	30 44	13 32.1
10	9	21 56	8 43.4	5	11½	30 53	13 56.0†
10	9½	22 5	8 43.9	10	11½	30 55	8 32.8
11	11	23 13	11 30.6:	9	9½	30 56	13 31.8
11	11	23 41	11 27.5	9	11½	31 11	13 34.2
10	9	24 0	8 37.8*	11	11½	31 12	11 43.7
11	9	24 0	11 36.4*	9	10	31 41	13 47.0
10	11½	24 11	8 32.7	9	11	31 54	13 39.5
10	11½	24 18	8 32.9	11	10	32 4	11 44.9
11	10	24 36	11 40.1	9	10½	32 24	13 45.2
10	11	24 42	8 37.0	9	12	32 25	13 33.8
10	11	24 46	8 37.5	10	9½	32 28	8 32.1
10	9½	25 47	8 43.8	11	10½	32 30	11 32.0
10	10½	26 2	8 36.7	11	10½	32 35	11 34.4
11	10½	26 6	11 39.4	5	11	32 39	14 3.0
11	10	26 12	11 29.1	10	12	32 51	8 29.9
11	11	26 27	11 34.6	11	9½	33 14	11 41.7
11	11½	26 43	11 45.2	10	11	33 22	8 29.1
11	11	26 57	11 44.1	11	11½	33 26	11 43.9
10	10½	27 6	8 45.1	11	9½	33 28	11 40.2
10	12	27 28	8 34.0	10	11	33 36	8 29.1
10	9½	27 41	8 30.2	9	11	33 48	13 32.3†
11	9½	27 52	11 48.2	9	9½	33 50	13 39.3
10	9½	28 16	8 46.4	10	10½	33 59	8 33.8
10	10	13 28 52	— 8 41.6*	10	11½	13 33 59	— 8 31.1†

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
5	11	13 34 7	—13 49.8
5	11	34 10	13 54.5
9	10	34 11	13 31.9
10	9½	34 12	8 32.9
9	10½	34 13	13 39.3*
9	11½	34 28	13 29.7
11	11	34 30	11 46.0
5	12	34 31	13 59.0
11	10½	34 35	11 33.8
11	10½	34 51	11 33.4
10	11	35 9	8 47.2
9	11½	35 22	13 34.0
10	9	35 50	8 42.9
10	11½	35 55	8 45.6
11	12	36 0	11 40.8
11	12	36 16	11 44.3
10	11	36 20	8 42.8
9	10	36 37	13 43.6
10	10	36 40	8 43.3
11	11	36 54	11 46.7
5	10	36 55	13 50.7
11	10½	37 0	11 40.2
10	11½	37 25	8 49.3
11	12	37 50	11 41.7
9	11½	37 55	13 30.8
9	10	38 15	13 39.9*
10	11	38 19	8 43.9
9	12	38 26	13 43.5
5	12	38 36	14 0.8
10	12	38 38	8 35.0
10	12½	38 38	8 33.6
5	12	38 54	13 54.5†
11	12	38 56	11 29.6
11	10½	39 8	11 31.0
5	11½	13 39 10	—13 55.9
5	11½	13 39 20	—14 0.4
10	12	39 23	8 31.4
10	12	39 53	8 35.0
9	12	39 58	13 41.4
9	11½	40 1	13 45.4
9	12	40 6	13 41.4
11	11	40 22	11 43.9
9	12	40 28	13 42.2
10	11	40 29	8 35.6
11	10½	40 31	11 38.9*
11	11	40 38	11 34.7
10	11½	40 47	8 48.3
5	10	40 54	13 48.6
11	11	41 4	11 35.3
9	11	41 5	13 43.5
9	11½	41 18	13 39.7
9	9½	41 30	13 36.4
11	11	41 58	11 46.6
10	11½	42 3	8 32.5
9	11	42 5	13 45.6
11	12	42 19	11 48.2
5	11½	42 37	14 3.4
9	12	42 39	13 46.4
10	11	42 46	8 47.4
9	10½	42 48	13 35.7
10	12½	42 50	8 44.3
11	10½	42 54	11 30.0
10	12	42 55	8 48.0
11	10	43 6	11 36.7
10	9½	43 12	8 35.2
11	9	43 34	11 38.6
10	9½	43 37	8 45.8
11	11	43 45	11 35.0
5	10½	43 48	14 4.8
5	11½	13 44 25	—13 52.2:

* (4). † S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	13 44 27	—13 31.1	5	11½	13 48 49	—13 54.0
11	11½	44 43	11 45.5	11	11½	48 57	11 33.8
11	11	44 45	11 28.4	11	11½	49 14	11 33.3
11	11	44 45	11 36.9	5	12	49 15	13 54.0
9	12	44 50	13 44.3	10	12	49 21	8 30.6
9	11	44 50	13 48.4	11	12	49 24	11 33.7
11	11½	44 51	11 38.5	11	11½	49 31	11 31.8:
5	10	45 2	14 0.2	10	12½	49 49	8 47.1
10	12	45 4	8 46.2	5	11	50 36	14 0.0§
9	12	45 9	13 46.7	9	9½	50 41	13 39.6‖
5	8	45 47	13 55.3	10	9	50 45	8 28.6
10	11½	45 50	8 39.5	11	12	50 50	11 36.5
9	12½	45 52	13 45.5	11	11	50 55	11 31.1
10	9	45 59	8 45.6	11	11	50 56	11 28.9
9	12	46 11	13 43.0	10	9½	50 58	8 39.5
10	12	46 15	8 39.5	10	12½	51 12	8 33.4
11	10½	46 15	11 32.0	10	12	51 18	8 33.3
10	9½	46 19	8 31.6	9	10½	51 25	13 40.5
10	12½	46 21	8 44.0	5	12½	52 7	13 55.7
5	11½	46 29	13 52.5	5	11½	52 8	14 4.8
10	11½	46 30	8 47.4	5	12½	52 14	13 59.8
9	10	47 2	14 34.8	9	9½	52 20	13 29.6
11	10½	47 3	11 41.1*	5	11½	52 28	14 4.8:
9	10	47 10	13 38.0	10	11	52 45	8 35.6
10	9	47 12	8 49.9	10	11½	52 49	8 36.6
10	11½	47 13	8 43.9	10	11	53 0	8 35.0
10	11½	47 24	8 44.8	5	11	53 3	13 58.4
10	11	47 33	8 39.0	10	11	53 12	8 36.4
10	11	47 48	8 40.9†	11	12	53 23	11 30.7
9	10½	47 53	13 40.1	5	–	53 26	13 58.6
5	12	48 5	14 1.6	9	12	53 27	13 31.5
11	8	48 6	11 35.1	9	10	53 31	13 34.0
11	11	48 34	11 33.7	5	11	54 17	13 57.8‖
11	11½	48 43	11 35.0‡	10	11	54 30	8 34.7
9	12	13 48 48	—13 40.8	9	12	13 54 33	—13 32.5

* An 11½ N. *f.* † Double. ‡ S. *p.* of double. § L. of double. ‖ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	12½	13 54 35	—11 33.7	10	11	13 59 30	— 8 47.7
9	11	54 38	13 44.1	10	11	59 38	8 46.5†
10	11	54 38	8 47.7	11	11	59 48	11 41.2
10	12½	54 42	8 37.8	10	12	13 59 53	8 44.4
11	10	54 45	11 34.3	10	12	14 0 12	8 40.9
5	11	54 48	14 1.2	11	11	0 15	11 38.5
11	11	54 54	11 38.9	9	10½	0 26	13 44.6
11	11	55 2	11 41.0	10	11½	0 28	8 42.4
11	11	55 11	11 43.0	11	10	0 28	11 43.3
9	11	55 18	13 44.5:	9	11	0 29	13 49.0
11	11	55 54	11 26.4	11	10	0 42	11 39.2
10	11½	56 2	8 48.4	5	10½	1 2	14 4.2
11	11	56 5	11 25.2	11	9	1 20	11 40.9
9	10½	56 25	13 40.1*	5	10	1 26	14 2.8†
9	8	56 34	13 26.6	11	9	1 47	11 41.4
5	10½	56 39	13 58.1	10	10	2 9	8 37.0:
11	10	56 47	11 46.7	10	12	2 15	8 43.9
5	9½	56 51	13 52.9	10	12	2 17	8 41.0
5	11	56 51	13 50.9	9	12½	2 32	13 37.0
11	11½	57 13	11 42.4	9	11½	2 39	13 42.0
10	9½	57 43	8 30.2	5	10	2 41	14 5.5‡
11	11	57 54	11 28.3	5	10½	2 53	13 51.1
5	11½	58 10	13 49.8	11	9	3 3	11 45.8
5	12½	58 13	13 58.3	11	12	3 7	11 31.3
11	11	58 15	11 33.9	11	12½	3 9	11 34.7
9	11½	58 17	13 41.1	11	11	3 9	11 39.3
11	10½	58 22	11 32.4	10	11	3 11	8 47.3
5	10	58 26	13 51.0	9	11	3 25	13 43.4
9	11	58 41	13 35.1	5	11½	3 26	14 3.2
10	10½	58 50	8 32.4	9	12	3 27	13 37.1*
5	11	59 10	14 2.8	10	10	3 28	8 44.7
5	11½	59 15	14 2.0	9	11½	3 40	13 46.2
9	12	59 20	13 32.0	10	9½	3 59	8 42.9
5	11½	59 22	14 2.6	5	11	4 18	13 56.4*
5	11½	13 59 23	—14 3.9	11	11½	14 4 23	—11 29.3

* (4). † L. of double. ‡ L. of close double.

Days.	Obs.	Mag.	α. h.	m.	s.	δ. °	′	Days.	Obs.	Mag.	α. h.	m.	s.	δ. °	′
10		12	14	4	30	— 8	31.4	11		10½	14	10	13	—11	42.4
9		9		4	47	13	27.7	9		12		10	22	13	40.5
5		10½		4	48	13	59.0	5	9	8		10	56	13	49.9
10		12½		4	56	8	34.4	5	9	11		11	23	13	49.2
9		11½		5	6	13	33.6	11		11		11	23	11	46.8
9		12		5	11	13	30.9	5		11		11	34	14	8.4
11		8½		5	19	11	27.0	5		11		12	8	14	3.2
11		9½		5	25	11	32.7	9		11		12	13	13	35.8
9		11½		5	37	13	44.1	11		11		12	25	11	34.0
5	9	10½		6	5	13	48.4	5		11		12	33	13	59.8
5		10½		6	19	13	56 3	9		11½		12	38	13	44.6
9		10½		6	20	13	47.3	5		11½		12	42	14	8.7
5		11		6	25	13	55.2*	5	9	11		13	18	13	50.1
11		12		6	36	11	32.2	11		12		13	21	11	42.5
9		12		6	47	13	29.1	9		10		13	23	13	34.8
5		11		6	48	13	50.1	5	9	10½		13	28	13	48.4
9		12		6	53	13	28.8	11		12		13	30	11	36.4
9		10		6	57	13	30.6	5		12		13	57	14	6.3
11		12		7	6	11	38.7	5		10½		14	2	14	2.8
11		12		7	15	11	37.0	9		11½		14	19	13	41.1
5		11½		7	32	14	5.4	9		11½		14	54	13	41.3
11		10½		7	33	11	28.5	11		11		15	3	11	36.8
9		12		7	47	13	33.6	11		11½		15	6	11	45.4
9		10½		7	56	13	50.2	5		12		15	9	13	59.4
9		9		8	6	13	34.7	5		12		15	9	14	1.6
5		9½		8	7	13	52.3	5		11		15	17	14	3.5
5		12		8	29	13	53.9	11		10½		15	24	11	46.7
11		10		8	33	11	31.3	11		10		15	31	11	43.3
9		12		8	45	13	32.9	5		9		15	41	13	57.7
11		10½		9	12	11	32.4	9		11		15	59	13	49.2
11		10		9	39	11	41.0	9		10½		16	13	13	49.6
5		10		9	46	14	2.0	11		9		16	24	11	44.1
9		11½		9	56	13	45.2	9		9½		16	43	13	29.6
9		12½		10	5	13	44.2	11		11½		16	46	11	37.9
11		12½	14	10	11	11	42.4	11		10	14	16	48	—11	30.7

* (4).

Days. Obs.	Mag.	α	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
9	11½	14 17 11	—13 42.3	11	10½	14 23 27	—11 35.5
11	10	17 28	11 35.3	5	12	23 57	13 52.7
9	10	17 34	13 31.1	5	10	24 3	13 49.5
11	11½	18 4	11 36.0	9	10	24 10	13 30.1
5	11½	18 5	13 48.7	5	12	24 30	13 52.8
5	11	18 8	13 52.9	9	11½	24 33	13 31.3
9	11	18 14	13 31.4	5	11½	24 54	14 1.0
5	10½	18 15	13 59.5	9	12	24 59	13 31.6
11	11	18 19	11 34.4	11	11	25 0	11 44.2
11	11	18 22	11 31.6	9	11½	25 30	13 45.9
5	11	18 33	13 48 9	11	10½	25 34	11 41.2
11	11	18 36	11 35.0	9	12	25 37	13 46.3
9	11	19 18	13 43.2	5	10	26 14	14 8.3
9	12	19 27	13 40.1	5	9	26 49	13 52.1
5	10½	19 28	13 57.9	11	9	26 56	11 34.0:
9	10½	19 39	13 44.1	5	10½	26 57	14 2.7
9	12	19 41	13 40.3	9	12	28 9	13 38.1
11	12	20 26	11 29 2	11	11	28 10	11 40.9†
11	9½	20 28	11 43.5:	11	11½	28 18	11 45.4
5	10	20 35	13 58.3*	9	12	28 23	13 42.7
11	12	20 51	11 31.8	5	11	28 25	13 58.8
5	12	21 5	13 55.1	9	12	28 34	13 37.3
9	12	21 22	13 40.9	5	11½	28 38	14 4.2
9	12	21 23	13 38.9	5	10	28 43	14 1.0
9	12½	21 25	13 42.4	26	11	28 59	19 53.4
9	10	21 58	13 36.2:	26	11	29 2	20 8.4
11	12	22 14	11 33.4	9	11½	29 19	13 45.6
5	10	22 15	13 55.9	9	11½	29 23	13 43.8
9	11	22 31	13 31.8	5	10½	29 27	14 5.8
5	11	22 44	13 50.4	11	11½	29 34	11 45.6
5	11	22 56	13 52.3	9	11½	29 46	13 44.1
9	10½	22 57	13 35.6	11	12	29 57	11 39.5
11	11	22 59	11 36.5*	11	10½	30 11	11 47.5
11	11	22 59	11 41.5	9	11	30 12	13 31.6
9	11	14 23 2	—13 42.5	5	10	14 30 19	—14 6.3

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	12	14 30 40	—14 4.0	9	11	14 35 47	—13 44.7
11	12	30 45	11 37.1	26	11½	35 54	19 53.2
26	11	30 56	19 52.0	9	11½	36 1	13 43.2
11	11	31 1	11 43.4	5	11	36 3	14 2.0
5	9	31 5	14 1.3	9	12	36 17	13 44.0
26	11	31 9	19 48.3	9	12	36 17	13 46.5
9	11½	31 27	13 37.5*	26	11½	36 30	19 55.9
9	11½	31 30	13 30.5:	5	10½	36 36	13 52.0
5	11½	31 40	14 4.8	5	11	36 51	14 3.6
11	9	31 40	11 40.9	9	12	37 15	13 42.8
5	12	31 46	14 1.5	5	11	37 32	13 59.5
5	12	31 48	13 58.4	26	11½	37 42	19 49.6
5	12	31 52	13 58.4	9	10	38 0	13 31.6
26	11	32 0	20 2.6	5	11	38 20	13 59.5
5	11½	32 5	13 51.9	9	10½	38 21	13 34.3
26	11	32 25	19 54.7	5	11	38 27	13 52.7
26	11½	32 26	20 0.9	9	11½	38 31	13 43.0
26	10	32 41	20 2.1	9	12	38 39	13 44.2
11	10	33 1	11 40.0	9	10½	39 31	13 31.6
11	9½	33 1	11 31.0†	5	11½	39 32	14 0.6
9	11½	33 7	13 42.6	26	11½	39 40	19 59.8‡
5 9	9	33 16	13 49.0	5	10	39 45	14 4.7
9	11	33 22	13 37.6	5	10½	39 55	13 52.8
5	10½	33 24	13 55.1	5	10½	40 44	14 4.6
5	10½	33 32	13 58.2	9	11	40 52	13 40.2
5	11	34 6	13 51.1	5	12	41 2	14 4.8
9	10½	34 18	13 29.4	9	12	41 4	13 47.4
26	10	34 24	20 8.1	9	11	41 12	13 37.0
11	11	34 53	11 39.7	5	11	41 52	14 4.1
11	12½	34 56	11 46.1	9	11	41 54	13 46.4
9	11½	35 9	13 44.3*	5	11½	42 6	14 4.3
9	10½	35 11	13 47.7	9	12½	42 40	13 34.7
11	10½	35 11	11 43.6	26	19	42 46	19 56.6
5	11	35 46	14 6.6	9	10½	42 47	13 35.3
26	11	14 35 46	—19 59.9	5	10	14 42 50	—14 1.7

* L. of double. † A small companion. ‡ (4).

Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′	Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′
9		12	14 42 50	—13 42.3	9		12	14 51 47	—13 39.6
9		12½	42 56	13 41.9	26		11½	51 52	19 50.5
9		11	43 42	13 45.0	5		12	51 55	13 58.0*
5		12	43 50	13 52 7	26		11½	52 3	19 49.3
9		10½	43 56	13 32.5	9		10	52 13	13 32.1
5		11	44 10	13 51.1 :	5		11½	52 23	13 49.4
5		11	44 13	13 48.9	26		11½	53 9	20 8.5
9		10	44 29	13 45.0	5		10	53 24	13 53.8
5		11½	45 1	14 8.4	9		12	53 25	13 37.2
5		12	45 5	14 5.1	9		11	53 25	13 38.2
5		10	45 5	13 58.0	5	9	11	53 27	13 45.4‡
9		10	45 38	13 28.9	9		12	53 27	13 44.5§
5	9	10½	45 44	13 47.7	26		9	53 29	19 51.6
9		12	46 7	13 45 6	5		10	53 35	13 52.5
5		12	46 26	14 3.4	26		11½	53 51	19 50.3
9		12	46 44	13 27.8	9		11	53 55	13 33.5
5	9	11	47 4	13 47.0	5		10	54 22	13 54.6
5	9	11	47 8	13 47.4	9		11½	54 56	13 29.3
5		10	47 56	13 49.6	9		11	54 57	13 32.1
5		12	47 57	13 54.6	5		11	55 13	13 54.7
5		10½	48 7	13 55.2	9		12½	55 17	13 32.6
9		10	48 13	13 30.1	5		10½	55 35	14 5.7
5		11	48 19	13 59.4	26		11½	55 44	20 1.2 ‖
5		9	48 35	13 52.8	5		11½	55 46	14 4.1
5		11	48 39	14 3.4	9		11½	56 27	13 43.7
26		11	48 39	20 4.3	9		12	56 37	13 31.6
5		10	49 1	14 4.5	9		12	56 48	13 32.7
5		12	49 27	13 55.4	5		11½	56 58	13 57.9
5		11½	49 30	13 57.2	5		11	57 2	13 54.9
26		10	50 1	19 52.5	9		11	57 8	13 31.6
9		11	50 11	13 30.1	26		11	57 24	20 0.7*
5		10½	51 3	14 3.7	5		11½	57 33	14 2.7
9		10	51 18	13 37.0*	5	9	10	57 33	13 47.9
26		10	51 22	19 47.6†	9		12	58 11	13 45.7
9		11½	14 51 39	—13 40.2	9		10½	14 58 53	—13 47.9

* (4). † An 11th *f*. ‡ S. of 3. § S. of double ‖ A 12th *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	12	14 30 40	—14 4.0	9	11	14 35 47	—13 44.7
11	12	30 45	11 37.1	26	11½	35 54	19 53.2
26	11	30 56	19 52.0	9	11½	36 1	13 43.2
11	11	31 1	11 43.4	5	11	36 3	14 2.0
5	9	31 5	14 1.3	9	12	36 17	13 44.0
26	11	31 9	19 48.3	9	12	36 17	13 46.5
9	11½	31 27	13 37.5*	26	11½	36 30	19 55.9
9	11½	31 30	13 30.5:	5	10½	36 36	13 52.0
5	11½	31 40	14 4.8	5	11	36 51	14 3.6
11	9	31 40	11 40.9	9	12	37 15	13 42.8
5	12	31 46	14 1.5	5	11	37 32	13 59.5
5	12	31 48	13 58.4	26	11½	37 42	19 49.6
5	12	31 52	13 58.4	9	10	38 0	13 31.6
26	11	32 0	20 2.6	5	11	38 20	13 59.5
5	11½	32 5	13 51.9	9	10½	38 21	13 34.3
26	11	32 25	19 54.7	5	11	38 27	13 52.7
26	11½	32 26	20 0.9	9	11½	38 31	13 43.0
26	10	32 41	20 2.1	9	12	38 39	13 44.2
11	10	33 1	11 40.0	9	10½	39 31	13 31.6
11	9½	33 1	11 31.0†	5	11½	39 32	14 0.6
9	11½	33 7	13 42.6	26	11½	39 40	19 59.8‡
5 9	9	33 16	13 49.0	5	10	39 45	14 4.7
9	11	33 22	13 37.6	5	10½	39 55	13 52.8
5	10½	33 24	13 55.1	5	10½	40 44	14 4.6
5	10½	33 32	13 58.2	9	11	40 52	13 40.2
5	11	34 6	13 51.1	5	12	41 2	14 4.8
9	10½	34 18	13 29.4	9	12	41 4	13 47.4
26	10	34 24	20 8.1	9	11	41 12	13 37.0
11	11	34 53	11 39.7	5	11	41 52	14 4.1
11	12½	34 56	11 46.1	9	11	41 54	13 46.4
9	11½	35 9	13 44.3*	5	11½	42 6	14 4.3
9	10½	35 11	13 47.7	9	12½	42 40	13 34.7
11	10½	35 11	11 43.6	26	19	42 46	19 56.6
5	11	35 46	14 6.6	9	10½	42 47	13 35.3
26	11	14 35 46	—19 59.9	5	10	14 42 50	—14 1.7

* L. of double. † A small companion. ‡ (4).

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
9		12	14 42 50	—13 42.3	9		12	14 51 47	—13 39.6
9		12½	42 56	13 41.9	26		11½	51 52	19 50.5
9		11	43 42	13 45.0	5		12	51 55	13 58.0*
5		12	43 50	13 52 7	26		11½	52 3	19 49.3
9		10½	43 56	13 32.5	9		10	52 13	13 32.1
5		11	44 10	13 51.1 :	5		11½	52 23	13 49.4
5		11	44 13	13 48.9	26		11½	53 9	20 8.5
9		10	44 29	13 45.0	5		10	53 24	13 53.8
5		11½	45 1	14 8.4	9		12	53 25	13 37.2
5		12	45 5	14 5.1	9		11	53 25	13 38.2
5		10	45 5	13 58.0	5	9	11	53 27	13 45.4‡
9		10	45 38	13 28.9	9		12	53 27	13 44.5§
5	9	10½	45 44	13 47.7	26		9	53 29	19 51.6
9		12	46 7	13 45 6	5		10	53 35	13 52.5
5		12	46 26	14 3.4	26		11½	53 51	19 50.3
9		12	46 44	13 27.8	9		11	53 55	13 33.5
5	9	11	47 4	13 47.0	5		10	54 22	13 54.6
5	9	11	47 8	13 47.4	9		11½	54 56	13 29.3
5		10	47 56	13 49.6	9		11	54 57	13 32.1
5		12	47 57	13 54.6	5		11	55 13	13 54.7
5		10½	48 7	13 55.2	9		12½	55 17	13 32.6
9		10	48 13	13 30.1	5		10½	55 35	14 5.7
5		11	48 19	13 59.4	26		11½	55 44	20 1.2‖
5		9	48 35	13 52.8	5		11½	55 46	14 4.1
5		11	48 39	14 3.4	9		11½	56 27	13 43.7
26		11	48 39	20 4.3	9		12	56 37	13 31.6
5		10	49 1	14 4.5	9		12	56 48	13 32.7
5		12	49 27	13 55.4	5		11½	56 58	13 57.9
5		11½	49 30	13 57.2	5		11	57 2	13 54.9
26		10	50 1	19 52.5	9		11	57 8	13 31.6
9		11	50 11	13 30.1	26		11	57 24	20 0.7*
5		10½	51 3	14 3.7	5		11½	57 33	14 2.7
9		10	51 18	13 37.0*	5	9	10	57 33	13 47.9
26		10	51 22	19 47.6†	9		12	58 11	13 45.7
9		11½	14 51 39	—13 40.2	9		10½	14 58 53	—13 47.9

* (4). † An 11th *f*. ‡ S. of 3. § S. of double ‖ A 12th *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11	14 58 54	—20 8.5	26	10½	15 3 20	—20 5.2
26	11	59 4	20 0.1	11	11	3 29	21 40.0
11	11	59 20	21 48.3	9	9½	3 33	13 37.2
9	11	59 23	13 46.6	10	10½	3 39	21 3.3
9	11	59 28	13 43.3*	11	11	3 46	21 37.8
11	12	14 59 46	21 36.1	10	11	3 50	21 3.4
10	11	15 0 2	20 55.1	11	11½	4 0	21 44.8:
11	11½	0 2	21 36.2†	10	11½	4 9	21 4.6
9	11	0 4	13 47.3	26	10½	4 26	19 52.2
9	11	0 10	13 47.3	26	11	4 35	19 58.8
26	8½	0 12	20 6.9	10	12	4 37	21 9.0
5	12	0 30	14 5.4	11	12	4 50	21 46.8
10	10½	0 30	20 57.3	11	9½	5 18	21 35.5
9	11	0 48	13 47.0	10	11	5 22	20 58.4‡
10	10	0 54	20 59.0	11	10	5 24	21 44.0
9	11	0 57	13 43.0	5	11½	5 44	13 51.8†
5	10	1 12	14 2.5	10	11	5 44	20 56.0:
9	10	1 13	13 44.9	5	11	5 45	13 49.5
9	11	1 20	13 41.0	5	11½	5 46	13 54.6
5	10	1 34	13 48.5†	10	11	5 49	20 55.6
11	11	1 37	21 40.4	11	11½	5 50	21 46.7
9	11½	2 2	13 41.4	26	9½	5 50	20 8.4
5	10½	2 11	13 52.2	10	10	6 7	21 1.1
10	12	2 20	21 3.3	11	9½	6 18	21 35.5
10	12	2 28	20 59.8	11	10	6 24	21 44.0
5	11	2 31	13 52.7	5	11	6 29	13 48.8
5	11	2 35	13 51.6	10	10	6 47	21 2.6
10	12	2 50	20 54.8	11	11½	6 50	21 46.7
9	10½	2 56	13 35.8	5	12	7 3	14 3.5
5	11	2 57	13 54.5	26	10½	7 7	20 1.9
10	12½	2 59	20 54.4	5	10	7 13	14 6.1
9	10½	3 2	13 39.2	10	12	7 22	21 1.2
10	11	3 6	21 6.0	26	11½	7 22	20 4.7
9	10½	3 14	13 46.2	11	12	7 25	21 44.1
11	11	15 3 18	—21 48.6	11	12	15 7 26	—21 45.3

* N. *p.* of double. † L. of double. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	12	15 7 30	—21 2.6	26	10½	15 12 29	—19 54.4
10	11	7 30	20 48.1	26	11	12 35	19 57.2*
10	12	7 43	21 1.2	26	9	12 47	19 50.5
11	12	7 48	21 46.3	10	11	12 57	20 58.5
10	10	8 33	20 49.2	5	12	13 17	14 5.4
5	11½	8 36	13 58.0*	10	11	13 17	21 3.1
11	11	8 47	21 47.2	10	10½	13 18	20 55.1
11	11½	8 47	21 50.9	10	12½	13 23	20 59.9
5	12	8 51	14 0.3	11	12	13 36	21 47.5
10	12½	8 58	21 1.0	10	12	13 42	20 59.8
11	11	9 1	21 45.7	10	10½	13 54	21 4.6
10	9½	9 4	21 1.0	5	10	14 4	13 58.0*
10	12	9 9	21 0.7	26	11	14 6	19 55.4
26	11	9 13	20 1.5	11	11½	14 10	21 33.2
10	10½	9 23	21 6.3	11	10	14 36	21 51.0
5	11	9 51	13 59.9	26	10½	14 56	20 0.8
26	11	9 59	20 7.6†	26	11	14 58	19 55.2‡
11	10	10 5	21 35.8	5	10	14 59	13 54.2
11	10	10 19	21 38.3	10	12½	15 16	20 51.8
11	12	10 24	21 35.2	10	12½	15 29	20 52.6
10	11	10 29	21 1.2	10	12	15 38	20 53.9
11	11½	10 36	21 35.7	10	12	15 45	20 51.3
11	12	10 37	21 40.2†	11	12	15 50	21 39.0
10	12	10 51	21 0.0	5	9½	15 56	14 9.1
11	11½	10 52	21 35.9	26	11	16 51	20 3.4
10	12	11 4	21 1.7	10	11	16 53	21 2.3
10	12	11 22	20 59.8	10	11½	16 57	21 4.1
5	10	11 27	14 2.3	10	12	16 59	21 1.1
10	10	11 27	21 3.0	26	11	17 6	20 4.2
11	10	11 35	21 53.6	26	11	17 8	20 3.0
26	11	11 51	19 58.0*	11	9½	17 12	21 44.1
5	11	12 4	13 53.7	10	12	17 15	21 3.0
11	10	12 17	21 48.6	26	11	17 19	20 5.5
11	12	12 22	21 38.4	5	11	17 37	13 54.6
10	10	15 12 28	—20 48.8	11	11½	15 17 44	—21 41.7

* (4). † L. of double. ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	11	15 17 45	—21 32.8	10	12½	15 23 44	—20 53.7
5	11	17 46	13 52.4	10	11½	23 49	20 53.8
10	11	18 24	21 6.3	10	11½	24 50	21 2.2
11	10	18 38	21 45.3	10	11	24 54	21 0.4
11	11	18 38	21 39.3	11	12	24 55	21 46.2
10	10	18 46	21 8.1	10	11½	25 5	21 1.5
5	10	18 51	13 58.3	10	8	25 27	20 48.1
11	11	19 3	21 45.4	26	11	25 35	19 49.5
5	11½	19 4	14 0.1	26	11½	26 19	19 51.7
11	11	19 9	21 45.7	10	12	26 20	21 2.5
5	11	19 12	13 48.5	26	11	26 28	19 52.2
11	11	19 18	21 46.5	10	10½	26 34	20 50.5
11	12	19 23	21 47.3	10	10	26 56	20 50.0
10	9	19 44	21 8.9	10	10½	27 14	20 50.0
11	10½	19 49	21 38.4	26	9½	27 29	19 56.1
26	11½	19 52	20 7.6	31	11½	27 36	22 55.6
26	11	20 18	19 49.7	26	10	27 39	19 52.5
26	10½	20 25	19 59.9	26	10	27 55	20 4.8
26	11	20 31	19 49.2*	10	11	27 58	21 4.5
10	10	20 35	21 6.3	10	12	28 12	21 2.6
10	12	20 59	20 48.7	10	12	28 13	21 5.8
11	11	21 6	21 34.9	30	12	28 23	23 29.1
26	11	21 12	20 7.4	10	9	28 35	20 55.0†
10	11	21 32	21 3.4	11	7	28 45	21 37.0
10	11	21 42	20 45.8	9	10½	29 1	18 17.4
10	11½	22 14	21 6.7	30	10½	29 4	23 11.4
26	11	22 35	19 54.7	11	10½	29 13	21 44.5
26	11½	22 40	20 5.0	11	10	29 20	21 34.6
10	12	22 56	20 59 9	9	11	29 29	18 26.0
10	12	23 5	21 0.4	10	9	29 29	20 51.7
11	11	23 7	21 41.6	26	11	29 47	20 0.5†
11	11	23 18	21 43.5†	31	11	29 51	22 39.0
10	10	23 20	20 52.8	30	12	29 57	23 24.9
10	12	23 25	20 55.7:	31	11½	30 3	22 39.2
11	11	15 23 32	—21 50.5	31	11	15 30 15	—22 42.3

* An 11½ S. † (4).

Days. obs.	Mag.	α.	δ.
		h. m. s.	° ′
10	9	15 30 18	—20 46.5
30	9½	30 18	23 28.0
26	11	30 27	19 50.3
10	11	30 34	21 5.5
9	11½	30 36	18 24.5
31	11	30 42	22 44.2
9	12½	30 43	18 26.2
11	12	30 48	21 50.0
31	10½	30 52	22 39.1
10	12	31 9	20 48.5
26	11	31 17	19 53.9
10	12	31 18	20 48.2
11	10	31 18	21 49.9
11	10	31 20	21 54.9
26	11½	31 35	20 3.3
9	10	31 43	18 22 8
9	10	31 54	18 11.9
10	10	32 5	21 1.0
11	10	32 14	21 35.8
26	10	32 20	19 55.3
31	11½	32 27	22 46.8
30	11½	32 29	23 19.5
11	11	32 31	21 50.9
9	9½	32 32	18 19.7*
10	9	33 1	20 46.5
10	11½	33 10	20 53.4
26	11	33 19	20 1.8
9	11	33 28	18 15.0
30	11½	33 56	23 12.0
30	11½	34 4	23 24.4
26	10½	34 32	19 51.5
30	11	34 33	23 14.4
26	11	34 40	19 49.1
10	10½	34 46	20 47.7
10	11	15 34 50	—20 56.9

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
30	11½	15 34 56	—23 26.2
9	11½	34 57	18 13.9
9	11½	35 1	18 14.7
31	12	35 4	22 38.9
26	11	35 9	19 50.6
26	11	35 16	19 50.2
10	11	35 22	20 52.0
9	11½	35 27	18 14.5
9	11½	35 42	18 15.1
10	11½	36 3	20 53.8
31	10	36 3	22 36.4
10	11	36 9	20 49.5
9	11½	36 12	18 10.7
10	10½	36 14	20 48.4
30	12	36 17	23 17.8
10	11	36 52	20 45.9
26	11	37 6	19 52.8
26	10½	37 27	19 55.9
26	10	37 27	20 2.1
9	12½	37 28	18 26.7
30	11	37 29	23 30.5
9	10½	37 31	18 19.3
30	11½	37 48	23 32.3
9	12½	37 49	18 21.0
10	10	38 2	20 55.8
31	10½	38 8	22 38.7
9	11	38 9	18 23.0
10	9	38 10	20 51.8
10	11	38 26	20 52.9
26	11½	39 5	20 1.6
9	11	39 8	18 11.6†
26	10	39 8	20 6.3
9	11½	39 10	18 13.5
31	12	39 16	22 42.7
9	11	15 39 17	—18 14.7

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
31	10	15 39 17	—22 53.3	10	12	15 45 26	—21 4.2
31	10½	39 17	22 54.3	26	11½	45 32	19 56.4
30	10½	39 20	23 12.8	9	11½	45 40	18 21.3
9	12	39 30	18 23.7	10	9	45 40	21 6.8
26	11	39 33	20 0.1	26	11½	45 40	19 54.7
9	12	39 41	18 24.9	30	11	45 42	23 29.7
26	9½	39 42	19 55.5	10	12	45 58	20 59.7
26	8½	40 12	19 59.0	9	11½	45 59	18 22.2
30	11	40 22	23 22.7	10	10	46 30	20 51.1
9	11½	40 33	18 16.4*	26	11	46 38	20 6.2
31	11½	40 37	22 42.5	10	10	46 42	21 3.7
9	11	40 59	18 20.4	10	11½	46 50	20 58.8
9	11½	41 22	18 22.4	9	12	47 4	18 23.3
30	9½	41 50	23 32.6	26	11	47 26	20 3.7
30	11½	42 12	23 29.2	9	9½	47 40	18 9.8
26	12	42 36	20 5.4	9	10½	47 51	18 8.7
30	11	42 36	23 30.0	30	12	48 5	23 20.2
10	10½	42 40	21 1.4	9	11	48 9	18 20.3
31	11	42 42	22 50.8	10	8½	48 21	21 8.2
30	11½	43 2	23 27.2	30	12	48 51	23 28.5
30	11	43 2	23 28.7	26	11½	49 2	20 0.9
10	11	43 23	21 4.6	26	11	49 37	19 58.2
26	11	43 33	20 6.4	10	9	49 42	20 57.9
31	10	43 33	22 34.2	10	10½	49 52	20 58.2
10	11½	43 38	20 48.0	9	11½	49 55	18 26.7
9	11½	43 47	18 26.1	9	11½	49 57	18 24.4
26	11	43 55	20 5.2	31	11½	50 13	22 48.8
9	11	44 1	18 16.1	10	9½	50 14	20 49.4
9	11½	44 2	18 21.9	9	12	50 28	18 26.5
31	11½	44 2	22 46.0	26	11	50 30	20 4.6
9	11½	44 3	18 23.7	31	11	50 31	22 37.0
10	12	44 9	21 5.6	30	11½	50 45	23 17.7
10	9	44 56	21 8 2	30	11	50 52	23 28.0
26	11½	45 3	19 57.9	9	11½	51 3	18 23.2
31	11	15 45 22	—22 43.0	31	9½	15 51 7	—22 46.1†

* Double. † (4)

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	11	15 51 11	—18 7.0*	9	11	15 56 0	—18 22.8
10	10	51 15	21 0.6	26	9	56 8	19 53.1
31	11½	51 15	22 45.3	31	11	56 21	22 48.4
26	9½	51 16	19 59.0	31	11	56 35	22 55.1
10	11	51 17	20 49.7	26	10½	56 41	20 4.8
30	11	51 26	23 17.9	10	11	56 51	21 9.0
10	9½	51 33	21 3.6	26	8	56 52	20 1.5
9	11½	51 44	18 22.8	31	10½	56 56	22 57.4
26	9½	51 52	20 1.1 :	10	11	57 4	21 1.3
9	12	51 53	18 15.7	26	10	57 8	20 4.1
30	10	52 2	23 11.8	10	11	57 12	21 8.5
9	11½	52 30	18 15.3	31	10½	57 55	22 42.0
10	11½	52 38	20 55.1	30	11½	57 56	23 24.3
10	10½	52 38	21 2.2	30	10½	58 2	23 28.7
10	11	52 50	21 3.9	10	10	58 3	20 44.5
10	11	52 55	20 55.2	9	12½	58 8	18 6.8
31	11	53 1	22 35.5	10	10	58 11	20 52.8
9	10½	53 8	18 26.1	31	11	58 53	22 51.7
30	11	53 13	23 24.4	9	12½	58 55	18 21.8
30	11½	53 26	23 14.4	9	12½	59 0	18 19.5
10	11½	53 29	21 4.7	10	11	59 7	20 49.1
9	10	53 42	18 25.4	10	11½	59 13	20 54.2
9	12	53 51	18 25.1	9	12	59 18	18 26.8
9	12	53 55	18 26.1	9	12½	59 19	18 12.8
31	11	54 5	22 44.8†	26	11½	59 21	19 53.5
9	10	54 22	18 21.7	31	11	59 23	22 51.5
9	11	54 44	18 22.4	10	11	59 43	21 0.3
9	12	55 14	18 21.7	10	11	59 43	21 7.4
31	11	55 17	22 37.9	31	11	59 43	22 57.2
10	12½	55 25	20 50.1	31	11	59 47	22 52.8
10	11	55 36	20 51.7	26	11	15 59 51	19 57.4†
26	11	55 44	19 55.6	26	11½	16 0 7	19 54.9
9	11	55 49	18 15.2	26	11	0 24	19 55.1
31	11½	55 53	22 49.3	26	11	0 28	19 57.7
10	12	15 55 59	—21 4.0	30	11	16 0 40	—23 23.8

* S. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	12	16 0 41	—23 29.5	31	11	16 5 39	—22 49.9
9	11½	0 42	18 25.6	31	11	5 52	22 56.6
31	11½	0 50	22 51.6	9	11½	5 53	18 16.6*
10	10½	0 51	21 7.4	10	11	5 58	20 50.9†
10	12½	1 10	21 0.6	10	12	6 1	20 48.4
10	12½	1 14	20 58.0	9	11	6 7	18 22.8
10	12	1 20	21 3.8	30	11½	6 33	23 14.3
26	11½	1 24	20 11.0	10	10½	6 37	20 47.3
26	11½	1 51	20 0.4	10	11	6 39	20 50.3
31	11	2 8	22 40.3	26	11½	7 29	20 4.4
10	12	2 9	21 8.3	30	10½	7 33	23 22.6
9	12	2 11	18 14.4	10	10½	7 35	20 54.4
9	12	2 17	18 22.5	26	11½	7 39	20 6.3
10	10	2 25	21 2.3	30	11½	7 45	23 15.4
31	12	2 29	22 52.6	10	12	7 47	20 55.1
9	10	2 34	18 16.2	10	11½	7 59	20 53.9
10	11½	2 38	20 48.2 :	30	10½	8 1	23 27.5
9	12½	2 51	18 14.6	9	11½	8 21	18 14.2
30	11½	3 0	23 29.9	30	11	8 38	23 29.2
10	10½	3 9	20 50.2	9	12	8 44	18 10.5
9	11	3 12	18 26.1	9	10	9 6	18 13.7
30	11½	3 41	23 14.7	26	12	9 16	20 6.8
31	11½	4 9	22 56.6	31	11½	9 45	22 45.4
31	11	4 12	22 46.6*	10	10	9 46	20 54.0
30	11	4 26	23 13.5	30	11½	9 51	23 28.1
31	11½	4 38	22 54.3	9	11½	10 2	18 25.6
30	11	4 43	23 19.6	10	12	10 10	20 54.8
9	12	4 56	18 12.7	9	11	10 16	18 25.9
26	11½	5 0	19 50.8	9	12	10 30	18 25.1
30	12	5 2	23 13.9	9	11½	10 36	18 26.4
9	10	5 3	18 22.9	9	12	10 49	18 26.0
26	11½	5 4	19 51.5	10	10	10 52	20 52.5
26	11	5 12	19 56.3	10	11	11 24	20 54.6
9	9	5 32	18 26.7	9	12	11 38	18 9.8
10	11	16 5 32	—20 57.8	9	10½	16 12 5	—18 24.2

* (4). † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	9½	16 12 11	—20 57.1	10	11½	16 19 37	—20 48.0
10	10½	12 28	20 53.9	10	11½	19 40	20 54.2
9	11	12 40	18 19.1*	10	10½	19 56	20 54.5
10	11½	12 42	20 54.3	10	10	20 28	20 48.8
30	11	12 47	23 10.7	26	10	21 37	20 1.1
10	11	13 0	20 52.5	10	11	21 55	20 49.1
10	11	13 2	20 55.2	26	11	22 2	20 2.1
9	10	13 11	18 12.2	10	11	22 4	20 58.5
26	11	13 13	19 53.2	10	11½	22 12	21 4.3
9	10	14 26	18 23.9	9	11	22 20	18 17.1*
9	10½	14 30	18 23.1	9	11	22 24	18 11.5
10	12	14 32	21 5 3	9	11	22 31	18 11.6
9	12	14 35	18 24.4	9	11½	22 36	18 19.9
26	10½	14 46	20 3.2	10	11½	23 28	21 2.1
26	11	14 55	20 6.1:	9	11½	23 48	18 10.5
10	12	15 8	20 59.4	10	12	23 54	21 5.5
10	10½	15 29	20 55.5	9	12½	24 6	18 13.3
9	12	15 44	18 20.2	26	9	24 7	20 0.2*
9	12	15 49	18 21 6	9	12½	24 18	18 14.8
10	12	15 52	20 58.8	9	11½	24 27	18 25.5
9	12½	15 55	18 21.9	10	11½	24 28	21 3.1
9	12	16 5	18 26.8	26	9½	24 35	19 55.1
9	12	16 18	18 20.7	10	11½	24 42	20 48.3
26	11	16 36	19 57.9*	9	11	25 14	18 16.1
9	12	16 43	18 19.1	9	11	25 28	18 9.6
26	11½	16 45	20 7.7	26	9½	26 22	19 52.5
10	11½	17 7	21 0.8	26	9½	26 23	20 0.0*
26	11	17 20	20 6.2	10	11½	26 29	21 9.4
9	12	17 26	18 17.1	10	12½	26 31	20 58.8
30	11½	17 52	23 22.5	9	12½	26 39	18 26.0
10	11	18 8	20 49.4	9	11½	27 1	18 13.5
9	11½	18 13	18 20.8	10	12	27 7	20 55.5
9	11½	18 14	18 21.4	10	12½	27 30	20 50.3
31	11½	18 58	22 49.1	26	11	27 45	20 7.2
10	11	16 19 13	—20 55.0	26	10	16 27 46	—19 50.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
31	11	16 28 2	—22 41.4	9	11	16 35 56	—18 10.0
26	11	28 28	20 3.7	31	11	35 58	22 54.6
31	11½	28 28	22 48.8	9	11	36 12	18 25.7
26	12	28 31	20 6.9	9	10	36 44	18 12.5
9	12	28 47	18 16.2	9	10½	37 2	18 24.7
31	11	28 52	22 52.0	9	10½	37 19	18 15.1
9	11	29 31	18 12.4	31	11½	37 30	22 52.7
10	12	29 34	21 9.1	31	11½	37 44	22 49.5
10	12	29 43	20 59.4	9	10½	38 1	18 12.8
9	11	29 45	18 16.5	9	11½	38 29	18 24.7
31	10½	29 49	22 51.1	31	11	38 31	22 54.9
26	11½	29 50	19 58.3	26	12	38 44	20 3.4
10	11	29 53	21 8.8	26	12	38 48	20 1.9
26	11½	30 4	19 58.0	26	11	38 51	19 51.9
26	11	30 10	19 58.1*	9	12	38 58	18 12.9
26	11	30 27	20 10.7	9	12	39 26	18 21.9
9	11	31 13	18 12.0	9	12½	40 2	18 26.0
9	12	31 21	18 12.3	9	12½	40 9	18 21.9
26	11	31 41	20 6.1	9	11	40 39	18 9.3
9	12	32 31	18 6.9	31	11	40 40	22 50.1
9	11½	32 34	18 10.1	31	10½	40 48	22 58.2
31	11	32 45	22 52.6	9	11½	41 9	18 10.2
31	11	32 53	22 52.6	31	11	41 24	22 47.7
10	10½	32 55	20 54.9	9	11½	41 34	18 10.8
10	12	33 24	20 49.9	31	11	41 46	22 41.9
9	10	33 27	18 18.3	9	12	41 56	18 28.7
26	12	33 27	19 51.4	26	11	42 6	20 6.6
31	10	33 36	22 49.4	9	12	42 16	18 15.5
31	10½	33 56	22 55.9	9	12	42 16	18 25.4
9	10	34 36	18 19.6*	9	12	42 27	18 25.9
26	10½	34 44	19 56.1†	9	11	42 54	18 29.4
10	11	34 58	20 45.7	26	11	43 13	19 57.9‡
10	12	35 25	20 49.3	9	11	43 34	18 22.2
26	11	35 41	20 5.2	9	11	43 34	18 23.7
26	11	16 35 54	—20 10.7†	10	12½	16 43 47	—20 58.3

*(4). † L. of double. ‡ An 11½ S. *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	9½	16 44 2	—18 21.9	9	9½	16 51 26	—18 27.3
10	12½	44 3	21 5.9	31	10½	51 37	22 54.5
9	11½	44 10	18 13.6	9	12	51 53	18 30.1
31	11	44 27	22 54.5	26	10	52 11	20 6.4
9	12	44 42	18 13.4	31	11	52 23	22 39.0
31	11½	44 42	22 57.7	26	10	52 27	19 57.2†
9	10	45 10	18 24.0	10	11½	52 31	20 48.0:
9	9	45 16	18 29.4	9	12	52 34	18 13.9
9	9½	45 21	18 26.1	26	12	52 44	19 58.0
10	11	46 5	20 49.8	31	11	52 45	22 44.3*
9	10	46 8	18 11.6	9	12½	52 50	18 13.5
26	11½	46 15	19 54.9	9	12½	53 9	18 15.0
31	10½	46 25	22 37.9	31	11	53 21	22 54.5
31	10½	46 26	22 47.3*	10	11½	53 35	20 59.2
31	11	46 28	22 40.5	9	10	53 41	18 16.4*
26	9½	46 50	19 51.2	10	12	53 58	20 55.9
9	11½	47 45	18 17.7	31	11½	54 6	22 54.9
9	11	47 51	18 22.6	9	10½	54 10	18 27.3
26	10	47 53	20 5.2	26	11½	54 11	20 4.3
26	11½	47 59	20 8.5	26	8½	54 28	19 55.2
9	12	48 3	18 26.6	31	11½	54 35	22 47.3
9	12	48 37	18 21.7	26	9	54 36	19 51.9
10	11	49 0	20 58.3†	9	11½	54 41	18 26.9
10	11	49 2	21 8.8	26	11	55 9	19 52.6
31	10	49 4	22 47.4	31	11½	55 20	22 43.4
26	11½	49 20	19 56.1	9	10	55 35	18 26.3
31	11	49 32	22 40.1	21	11	55 46	22 44.7
9	10	49 39	18 6.0	31	11	56 7	22 40.3
26	12	49 42	19 52.3	9	11	56 23	18 16.8*
26	9½	49 56	19 53.9:	26	11½	56 23	20 2.0
9	11½	49 57	18 19.6*	26	9	56 25	19 58.6*
9	11	50 24	18 22.4	26	11½	56 29	20 7.2
26	11½	50 35	19 53.2	9	11½	56 30	18 16.5*
9	11	50 44	18 15.3	31	11	56 30	22 40.4
31	11	16 50 47	—22 50.1	9	11	16 56 32	—18 26.6

* (4). † (4). N. *p.* of double. ‡ A 12th N. *p.*

Days Obs.	Mag.	α.	δ.
		h. m. s.	° ′
9	10½	16 56 35	—18 28.1
26	11½	56 40	20 4.6
31	10½	56 57	22 38.0
26	11	57 26	20 8.5
31	11	57 43	22 51.8
31	11	58 5	22 45.6
26	11½	58 37	20 2.0
31	11	58 37	22 43.1
9	11	58 52	18 16.2
9	11	58 54	18 21.4
26	11½	16 59 16	19 54.1
26	12	17 0 6	20 1.0
31	10½	0 10	22 49.5
31	10½	0 19	22 57.2
9	10½	0 28	18 24.3
9	10	0 38	18 17.0
31	11	0 58	22 56.1
9	11	1 7	18 19.9
26	11	1 33	19 51.2
26	11	1 36	20 6.3
31	12	1 49	22 53.2
9	12	2 24	18 24.0
9	9½	2 37	18 24.0
26	11½	2 39	20 2.4
31	11	2 52	22 39.1
31	11	3 6	22 36.3
9	10½	3 12	18 16.6*
31	11	3 47	22 39.9
26	11	4 11	20 5.3
31	11	4 15	22 50.2
31	11	4 33	22 47.5
26	11	5 5	19 53.1
9	10	5 17	18 11.6
9	10	5 27	18 23.8
26	11	17 5 45	—20 9.8

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
31	11	17 5 48	—22 55.3
31	11½	6 11	22 40.8
31	11	6 21	22 40.0
26	10	6 25	20 5.7
31	10½	6 35	22 47.1
31	11	6 53	22 42.3
26	11½	7 34	19 50.4
31	11	8 0	22 58.4
26	11½	8 21	20 5.7†
26	11	8 50	19 55.9
31	11	9 19	22 51.1
31	11	9 24	22 47.6
26	11	10 2	19 55.5
26	11	10 18	20 7.7
26	11	10 23	20 4.4
31	11½	10 45	22 47.7
31	11½	10 59	22 52.7
26	11	12 2	20 11.9
31	10½	12 34	22 42.9
26	11	12 35	20 8.4
26	10	12 47	20 5.2
26	11	13 14	19 55.0
26	11½	13 42	19 55.1
31	11	14 15	22 37.5
31	11	14 25	22 39.9
26	11	15 10	20 3.2
26	11½	16 9	19 55.6
31	10	16 12	22 43.7*
26	11	19 15	19 50.4
26	12	20 10	20 4.0
26	12	20 44	20 4.0
26	11½	22 18	20 7.4
26	12	23 18	20 5.2
26	11	24 34	19 52.8
31	10½	17 24 40	—22 52.0

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11	17 24 59	—20 2.6	31	11½	17 35 3	—22 51.2
31	12	25 2	22 48.9	31	11	35 19	22 51.6
26	10½	25 46	20 9.3	31	11	35 30	22 52.4
26	11½	25 49	20 0.4*	31	9½	36 57	22 33.4
26	11	26 30	19 59.5	31	11	37 10	22 37.5
31	11½	26 37	22 49.9	31	11½	38 11	22 41.2
31	11½	26 51	22 50.8	31	11½	38 17	22 42.7
26	10½	27 44	19 58.4*	31	10	38 46	22 54.6
26	11½	27 50	19 55.0	31	12	39 40	22 44.0
31	12	27 55	22 50.2	31	10½	41 14	22 54.8
31	11	28 0	22 42.4	31	11½	41 35	22 52.6:
31	11	29 12	22 39.7	31	11½	41 44	22 54.8
31	12	32 30	22 39.0	31	11½	42 46	22 36.9
31	12	32 35	22 43.5	31	12	43 3	22 37.8
31	11	17 32 42	—22 53.6	31	11	17 43 30	—22 37.2

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

322 STARS NEAR THE ECLIPTIC,

OBSERVED IN JUNE, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11	15 27 56	—22 26.4	3	11½	15 39 45	—22 23.0
3	10½	28 24	22 24.7	2	12	40 19	23 6.9
6	11½	29 14	23 47.3	2	12	40 24	22 57.0
6	11½	29 19	23 46.3	6	11	40 28	23 38.6
2	11½	30 8	23 8.5	6	11	40 38	23 37.7:
3	10	30 55	22 24.1	3	12	41 28	22 23.0
2	11½	31 1	23 3.6	6	11	41 32	23 42.8
2	11	31 19	23 11.0	2	11	43 53	23 0.6*
3	11	31 25	23 39.6	2	12	45 44	23 6.2
3	11½	31 46	23 46.0	3	11	45 59	22 27.9
3	11½	32 3	22 15.5	3	11½	46 15	22 19.1*
3	11½	32 16	22 11.6	3	10½	46 21	22 26.9
3	11	32 31	22 11.6	2	11	46 44	22 55.2
2	11½	32 49	23 6.9	6	10½	46 58	23 51.1
6	11½	32 52	23 49.2	6	11½	47 29	23 47.3
2	11½	33 3	23 3.0	2	12	48 23	23 6.5
3	11½	33 4	22 19.0	2	11	49 19	23 2.4
2	11	33 54	23 6.6	6	11	49 34	23 44.5
3	11½	34 32	22 23.7	3	11	49 44	22 31.1
2	11½	35 11	22 54.4	2	12	49 53	22 53.2
6	10	35 47	23 44.0	2	12	50 2	22 53.8
2	11½	36 19	23 3.8	3	11½	50 30	22 21.4
6	11	36 47	23 41.5*	2	11	51 13	22 54.5
6	11½	36 59	23 35.2	2	11	51 22	23 6.1
2	12	38 2	22 52.8	2	12	51 30	23 3.9
2	11½	38 5	22 52.7	6	11	52 10	23 31.6
3	11½	38 55	22 21.1	6	10	52 19	23 35.9
6	11½	39 0	23 43.5	3	10½	52 57	22 22.9
3	11	39 9	22 12.8	2	11	53 5	23 5.6
6	11½	15 39 32	—23 33.7	6	12	15 53 41	—23 36.6

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11	15 53 46	—23 2.5	6	11½	16 6 48	—23 32.6
6	12	53 55	23 37.0	6	11	6 55	23 32.8
2	11½	53 59	23 9.9	2	11	7 6	23 11.0
3	11½	54 1	22 21.2	2	11½	7 34	23 3.5
6	11	54 5	23 44.2	6	11½	7 44	23 32.9
2	11	54 19	23 9.3	2	11½	7 45	22 51.7
2	11½	54 36	23 11.2	2	12	7 49	23 2.6
2	11	55 18	23 8.9	6	11½	8 3	23 35.2
3	12	55 46	22 13.0	6	9½	8 15	23 50 8
6	11	56 6	23 34.4	2	10½	8 30	22 49.8
6	11	56 15	23 34.8	6	9½	8 47	23 46.3
6	11	56 32	23 40.8	2	12	9 59	22 56.4
2	12	56 38	22 53.7	2	11½	10 44	23 0.4
3	10	57 5	22 11.1	6	10½	10 52	23 43.4
3	11	57 20	22 22.7	2	12	11 54	22 48.2
3	12	58 27	22 26.3	6	11	11 58	23 30 5
3	12	58 39	22 26.2	2	12	13 4	23 1.3
6	12	59 27	23 47.0	2	11½	14 46	22 57.5*
3	11½	59 29	22 13.1	2	11½	19 37	23 8 3
3	11½	59 38	22 27.3	6	11	24 23	23 47.9
2	10½	59 45	22 55.5	6	11½	26 7	23 35.2
3	9½	15 59 48	22 26.7	6	10½	27 49	23 41.0*
6	11½	16 0 2	23 48.8	2	11½	28 42	22 56.6
2	12	0 19	23 4.3	2	11	29 11	23 0.9
6	11½	0 29	23 45.9	2	11½	29 22	23 3.9
6	11	0 56	23 35.7	6	10	30 14	23 31.3
2	10½	1 47	23 2.1	2	11½	31 10	22 59.6
6	11½	1 49	23 40.9	6	9½	31 15	23 35.7
2	12	2 4	23 4.0	2	11½	31 17	23 0.4
2	11½	2 19	22 53.1	2	12	31 23	23 8.3
6	9	3 11	23 31.5	2	12	31 28	23 3.8
6	11	3 32	23 33.5	2	11	33 27	22 59.7
2	11½	4 57	22 57.1	6	10½	34 1	23 39.9
6	10½	5 35	23 45.7	2	10½	34 31	22 58.8*
2	11½	16 6 33	—22 56.8	6	10	16 35 58	—23 35.0

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	16 37 23	—23 11.4	6	10½	16 47 55	—23 44.8
6	11	37 24	23 38.1	6	11	48 19	23 34.9
2	11½	37 39	23 6.6	6	10½	49 9	23 46.2
6	11	37 50	23 43.8	2	11	49 16	23 8.6
6	11	38 23	23 41.6*	6	10	49 40	23 35.1
6	10½	38 26	23 34.4	6	11	49 51	23 38.3
2	11	38 30	22 51.0	2	11½	50 58	23 4.9
2	12	39 6	22 57.9	2	12	50 59	23 3.0
2	11½	39 11	23 4.3	6	11½	51 10	23 36.0
6	11½	39 55	23 35.4	6	11½	51 14	23 38.2
6	10½	40 53	23 48.6	2	11	51 22	22 58.1*
2	11	41 3	22 55.6	6	11	51 29	23 31.9
2	11½	41 6	22 50.8	6	11½	51 32	23 34.2
6	10½	42 40	23 38.4	2	10	51 50	22 56.1
2	11	42 58	22 59.7	6	11	52 30	23 41.0
6	10	43 10	23 44.8	6	9½	52 47	23 38.8
2	11½	43 12	23 8.5	2	12	52 52	23 5.4
2	11½	43 13	23 5.7†	6	11	53 27	23 42.0
2	10½	43 49	23 3.0	2	11	54 0	23 4.7
6	11½	44 35	23 44.7	6	11	54 8	23 34.5
2	12	44 52	22 58.5	2	12	54 17	23 6.0
6	10	45 13	23 44.1	6	11	54 18	23 41.0
2	11	45 30	23 5.0	6	11	54 34	23 37.2
2	11	45 51	23 5.7	6	11	55 11	23 45.3
6	11	45 56	23 42.2	2	12	55 42	22 56.2
2	10	45 59	23 0.6	2	12	55 46	22 53.2
6	12	46 20	23 43.6	2	11½	56 1	23 7.1
6	11	46 27	23 47.1	2	11½	56 28	23 2.7
6	12	46 29	23 45.1	2	10	56 56	22 52.8†
2	12	46 40	22 52.8	6	10	57 4	23 47.1
2	12	46 54	22 54.6	6	11	57 19	23 41.0
2	11½	47 28	22 53.3	6	10½	57 32	23 43.3
6	11	47 42	23 34.2	2	11	58 17	23 7.9
2	11	47 51	23 6.6	2	11	58 19	23 11.9
6	11	16 47 51	—23 36.3	2	12	16 58 27	—23 7.8

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	12	16 58 44	—23 49.4	2	11½	17 10 54	—23 4.7
2	10½	58 52	23 11.4::	2	11	10 55	23 8.2
2	10½	59 10	23 12.1	6	11	11 11	23 45.9
6	11½	59 28	23 44.3	2	12	11 14	22 54.2
6	11½	59 28	23 47.0	6	11	11 45	23 51.9
6	11	59 36	23 42.8	2	10	12 1	23 0.3
6	10	16 59 40	23 47.9	6	10½	12 14	23 31.4
6	11	17 1 15	23 30.4	6	12	12 18	23 35.4
6	11	1 27	23 42.8	2	10½	13 7	22 50.8
2	11½	2 10	23 9.3	6	11	13 20	23 40.1
6	10	2 24	23 52.0	2	11	13 36	23 7.3
2	12	2 33	23 8.6	6	10½	13 37	23 47.1
2	10½	3 5	22 58.4	2	11½	13 39	23 2.0
2	10	3 12	22 58.3	2	11	14 6	23 4.4
6	11	3 22	23 28.6	2	11½	14 39	22 57.0
2	11½	3 23	23 6.2	6	11	15 18	23 34.2
2	12	3 30	22 54.2	2	12	15 46	23 12.0
6	11	3 33	23 28.9	2	11½	15 55	23 1.8‡
2	11	3 38	22 59.8	2	12	16 7	23 11.9
6	11	4 8	23 49.9	2	12	17 30	23 11.8
6	9½	4 21	23 41.1	2	12	18 41	23 5.3
6	11½	4 23	23 52.4	2	11	19 0	23 9.4
2	12	4 59	23 9.1	2	11	19 31	23 6.7
2	11½	5 10	23 3.3*	2	12	19 40	22 48.6
6	11	5 20	23 43.9	6	11	20 2	23 42.3
2	11	6 12	23 7.0	2	12	20 34	23 8.7
2	11	6 16	23 1.6	2	11½	21 29	22 54.7
6	12	6 17	23 30.5	2	9½	21 57	23 3.3
6	12	6 24	23 34.9	2	10½	22 41	22 58.1‡
6	11½	6 26	23 30.8	6	12	23 18	23 44.4
6	11	7 51	23 46.7	6	11½	24 10	23 42.2
6	11	8 46	23 28.0	6	11	24 27	23 51.9
2	11½	8 48	23 3.5	6	11	26 21	23 41.4‡
6	11½	8 51	23 31.6	2	11½	27 4	22 54.5
6	10½	17 9 48	—23 49.8†	2	12	17 27 15	—23 6.5

* L. of double. † A 10½ N. *f.* ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	11	17 27 27	—23 39.1*	6	12	17 38 28	—23 38.0
2	11½	28 2	23 8.0	2	11½	39 35	23 6.6
6	11	28 11	23 35.7	6	10	39 42	23 34.0
2	10	29 0	23 1.6*	2	12	40 45	22 53.5
2	11	29 5	23 12.6	6	11½	40 45	23 39.2
2	10	29 14	23 6.8	2	11	40 57	23 8.2
6	11½	30 23	23 40.2	6	11½	42 22	23 41.1
6	10½	30 42	23 37.9†	2	12	42 26	23 7.1
6	9½	31 32	23 42.4	2	12	42 43	23 3.1
6	11½	31 45	23 45.8	2	11½	43 6	23 7.3
6	11½	31 51	23 32.0	2	11	44 27	22 55.3
2	12	32 35	22 52.0	2	12	44 32	22 58.8
6	11½	33 46	23 49.2	2	11½	44 32	22 52.0
2	11	33 50	23 8.6	2	11½	45 23	23 5.2
2	11	33 54	23 6.1	2	12	47 48	23 12.5
2	11½	34 52	23 3.6	2	12	48 55	23 10.4
2	10½	34 54	22 58.3*	2	12	49 13	23 2.8
6	11	35 10	23 40.0*	2	12	50 27	22 55.9
6	11½	35 12	23 38.3	2	10	50 32	22 58.6
6	12	35 49	23 35.8	2	12	50 32	23 5.8
6	11	36 23	23 39.6	2	12	50 42	23 4.9
2	11	37 0	23 1.1*	2	10½	50 59	23 6.7
2	11	37 15	23 4.1	2	11½	51 46	23 8.7
6	8½	37 33	23 37.0	2	12	51 50	23 12.6
6	12	38 6	23 33.1	2	11	52 17	23 9.2
2	11	17 38 25	—23 7.4	2	12	17 52 25	—23 8.2

* (4). † A 12th p.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

85 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	11½	18 57 14	—26 5.9	28	11	19 6 4	—18 45.8
7	9½	57 16	26 2.5	28	11½	7 5	18 34.0
7	11½	57 24	26 4.6	7	11	7 29	26 10.6
7	11½	57 29	26 7.4	28	11½	7 38	18 31.3
28	12	58 2	18 48.8	28	11½	7 47	18 31.0
28	12	58 5	18 45.2	7	11	8 13	26 14.5
28	11½	58 18	18 48.8	7	11½	8 17	26 9.7
7	9	58 23	26 13.7	28	10	8 41	18 50.5
7	12	59 9	25 53.4	28	11	9 1	18 42.6
28	12	59 25	18 43.1	28	10½	9 35	18 43.7
7	11½	18 59 59	26 7.9	7	11	9 42	26 8.3
7	10	19 0 7	26 4.7	7	11	9 53	26 1.6*
28	10½	0 37	18 41.9	28	12	9 54	18 46.7
28	10½	0 37	18 34.4	28	11½	10 32	18 31.6
28	11	1 33	18 41.4	28	12	11 0	18 44.3
7	10½	1 45	25 54.6	28	11½	11 46	18 41.9
28	11	1 58	18 42.3	7	11	11 48	26 6.0
28	10½	2 50	18 27.2	28	11	11 50	18 46.7
7	12	2 57	26 9.1	28	11	12 1	18 45.6
7	10½	3 3	25 53.6	28	10½	12 46	18 46.8
28	10½	3 10	18 29.0	28	11	13 31	18 33.6
28	11	3 40	18 30.5	28	10½	13 32	18 40.6
28	10	3 53	18 40.6	7	10½	14 37	26 4.1*
28	11	4 38	18 43.8	28	11	14 37	18 45.2
7	11½	5 11	26 5.4	7	12	14 48	26 7.3
28	10½	5 16	18 47.8	7	12	14 54	26 7.1
7	11½	5 26	25 57.9	7	12	15 4	26 7.6
7	11	5 34	26 0.2	28	10	15 7	18 46.8
28	11½	5 34	18 46.3	28	10½	15 17	18 41.5
28	11½	19 5 35	—18 44.4	28	10	19 15 37	—18 51.9

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	11	19 15 39	—18 42.6	7	11	19 23 58	—26 8.4
28	10½	16 18	18 41.8	7	11	24 15	26 11.6
7	12	16 32	26 8.7	7	11	26 46	25 52.2
28	10	17 4	18 36.3 *	7	11½	26 52	26 3.5
7	11½	17 9	26 9.1	7	11½	27 9	25 50.5
7	11	17 28	25 57.5	7	11½	27 21	26 3.3
7	11½	17 33	25 56.8	7	11½	27 35	26 7.9
28	11½	17 51	18 47.5	7	11½	29 57	26 4.2
7	11	17 57	25 58.7	7	11	32 0	26 6.5
28	11	18 7	18 37.1 †	7	11½	32 2	26 10.4
7	11	19 37	26 8.4	7	11½	32 11	26 8.8
7	11½	22 38	25 57.7	7	10½	19 33 29	—26 1.7
7	11½	19 22 39	—25 54.5				

* A 10½ N. *p.* † (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

197 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	10½	18 51 46	—23 29.4	3	12	18 58 22	—22 24.2
19	12	52 52	23 6.6	3	12½	59 34	22 23.5 ‡
19	11½	56 19	23 25.2	3	12	18 59 49	22 15.8
19	12	57 13	23 26.8	3	10	19 0 7	22 18.0
3	10½	57 36	22 18.6	3	12½	0 21	22 18.2
3	12	58 13	22 25.8	3	12½	0 33	22 18.3
3	12	18 58 19	—22 22.7	3	12	19 0 53	—22 14.7

‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
3	12½	19 1 24	—22 29.4	3	11½	19 18 10	—22 28.8
3	12	2 26	22 14.0	3	11	18 44	22 26.5
3	11½	2 30	22 17.9	19	12	19 9	23 13.3
3	11	2 31	22 14.4 *	3	10	19 10	22 27.1
19	11	3 34	23 23.0	19	9½	19 10	23 15.9
3	11	3 57	22 14.0	3	12	20 28	22 25.3
3	12	4 31	22 19.2 †	3	12	20 31	22 21.2 *
3	10	4 45	22 10.5	3	12½	20 40	22 24.9
19	11	5 0	23 26.4	3	11½	20 42	22 26.3
3	10½	5 53	22 17.3	3	11	21 25	22 18.3
3	10½	6 58	22 17.3	19	11½	25 9	23 20.2
19	11	7 15	23 23.7	19	11	28 33	23 19.5
3	11	7 54	22 17.8	19	11	29 14	23 17.7
19	10	8 37	23 10.4	19	11½	29 20	23 12.7
3	11½	8 39	22 12.7	19	11½	30 54	23 23.9
3	12	9 9	22 15.9	19	10½	31 51	23 30.4
19	11	9 20	23 16.5	19	11½	32 40	23 15.3
3	10½	10 3	22 25.5	19	11	33 47	23 24.9
3	10½	10 22	22 12.5	9	11½	49 28	20 10.8
3	10½	10 34	22 12.8	9	11	52 6	20 6.7
19	10	10 34	23 29.6	9	11	52 46	20 8.3
19	9½	11 39	23 19.6 †	9	11½	53 23	20 7.8
3	12	11 54	22 28.9	9	12	53 35	20 10.1
3	11½	12 6	22 23.5	9	12	54 15	20 8.0
3	11	13 18	22 11.9	9	12	54 48	20 14.8
19	11	14 13	23 22.2	9	11	57 23	20 19.8
19	11	14 40	23 20.3	9	11½	57 55	20 22.5
3	11½	14 42	22 13.1	9	9½	19 59 2	20 12.2
19	11½	14 57	23 24.9	3	11½	20 0 21	22 25.6
3	11½	15 38	22 27.5	3	12½	0 35	22 27.8
3	12½	15 49	22 28.1	3	12	1 21	22 14.4
3	12	15 54	22 31.6 :	9	12	1 36	20 3.7
19	9	16 4	23 19.7	3	11	1 45	22 20.4
19	11	16 38	23 25.5	9	11	3 26	20 20.5
19	11½	19 16 57	—23 20.6 †	3	11½	20 4 25	—22 17.6 *

* L. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	9½	20 5 28	—22 29.2	3	12	20 24 8	—22 10.1
3	11	5 44	22 29.2	3	12	24 55	22 11.2
3	12	6 17	22 17.1*	3	11½	25 32	22 17.8
3	12½	6 56	22 23.8	3	11½	25 58	22 29.9
3	10½	7 30	22 15.6	3	11½	26 11	22 19.8‡
9	11½	7 33	20 22.2	3	10½	26 31	22 19.8‡
3	12½	7 38	22 13.8	3	11	26 56	22 17.3
9	11	7 42	20 11.5	3	12½	28 16	22 12.7
9	11½	8 20	20 10.4	3	12	28 18	22 14.3
3	12	10 45	22 28.7†	3	12	28 34	22 11.7
9	11	10 49	20 22.2	3	10½	29 12	22 15.7
3	10	10 51	22 21.1	3	11	29 19	22 13.8
3	12	10 54	22 22.1‡	3	11	29 47	22 16.2
9	9	10 56	20 21.5	3	12	30 5	22 27.2
3	11½	11 15	22 23.7	3	11	30 14	22 26.1
3	10½	11 52	22 17.7	3	11	31 8	22 23.9
3	11	12 27	22 16.7	3	12	31 21	22 15.9
3	11½	12 29	22 25.6	3	11½	31 29	22 13.8
3	11	12 55	22 28.5	3	11	31 43	22 14.4
3	12½	14 44	22 17.2	3	11½	31 55	22 23.3
3	12½	14 45	22 18.5	3	11½	32 19	22 27 3
3	11	15 20	22 19.4‡	3	12	32 35	22 21.7
3	11	15 37	22 18.3	3	12	32 42	22 22.5
3	11½	15 59	22 16.4	3	11½	33 42	22 19.5
3	11	16 39	22 13.2	3	12	34 24	22 29.7
3	10½	16 48	22 15.9	3	12	49 8	20 51.6
3	12	20 18	22 19.0	3	12	51 39	20 56.6
3	12	20 25	22 24.0	3	11	52 26	21 12.9
3	12	20 28	22 24.4	3	10	53 43	20 55.1
3	11	20 33	22 11.3	3	11	54 33	20 54.6
3	12	20 57	22 22.7	3	12	55 28	21 7.4
3	11	21 17	22 19.4	3	12	56 5	21 4.2
3	12	22 58	22 28.7	3	12½	56 17	21 5.6
3	12½	23 58	22 13.8	3	11	56 19	21 3.7
3	12½	20 24 4	—22 18.5	3	11	20 56 44	—20 56.3

* A 12th *f*. † A 12th S. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11	20 56 50	—21 6.7	3	11	21 21 13	—17 39.2
3	12	58 1	21 8.2	3	10½	22 11	17 33.6
3	12	58 13	21 9.4	3	12	22 57	17 32.3
3	11½	20 58 38	21 9.7	3	12	22 59	17 37.4
3	11	21 0 7	21 7.8	3	11	23 45	17 31.7
3	10½	0 52	21 5.7	3	11	24 2	17 29.4
3	12	1 46	21 6.2	3	11½	25 10	17 33.4
3	12	1 58	21 5.6	3	11½	25 55	17 35.4
3	11½	2 28	21 8.1	3	12	26 3	17 38.4
3	12	3 3	21 1.8	3	12	27 32	17 37.5
3	12	3 18	20 56.1	3	12	28 44	17 35.2
3	12	4 1	21 2.3*	3	11	29 20	17 34.1
3	10½	4 14	21 9.9	3	12½	30 57	17 47.8
3	12½	4 44	21 7.6	3	10½	32 28	17 32.7
3	11½	5 33	20 54.6	3	11	32 51	17 38.0
3	11½	5 37	20 52.4	3	11	33 50	17 39.6
3	11½	5 39	21 3.6	3	11	33 54	17 33.5
3	12	6 50	20 53.9	3	10½	33 57	17 39.2
3	12	6 52	20 56.5	3	11½	35 19	17 33.3
3	12	7 28	20 53.3	3	11	35 31	17 35.5
3	12	7 40	20 54.4	3	11	21 37 20	—17 37.8
3	11	21 19 44	—17 41.6				

* (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

761 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	11½	19 16 30	—22 45.8	2	12	19 34 5	—21 6.3
7	12	16 40	22 47.2	2	11	34 46	20 57.8
7	12	17 25	22 39.5	2	12	36 58	21 7.1*
7	9½	17 57	22 40.8	2	11½	37 39	21 4.5
7	11½	19 30	22 34.3	2	11	37 45	20 55.1
7	12	20 34	22 45.2	7	11	37 56	22 42.5†
7	12½	20 49	22 46.1	2	11½	38 17	20 53.9
7	11½	21 17	22 38.0	7	11½	39 6	22 37.1
7	12	23 1	22 45.3	2	12½	39 28	21 5.7
7	12	23 12	22 42.2	2	12½	39 38	20 54.1
7	12	23 32	22 34.1	7	11½	39 43	22 40.1†
7	12	23 38	22 38.9	2	12	39 44	20 54.8
7	10½	23 41	22 31.0	2	11½	41 14	20 53.4
7	11	24 26	22 45.4	2	11	41 16	20 54.9
7	12	24 45	22 38.6	2	11	41 25	20 58.1
7	12	24 49	22 39.4	2	12	41 35	20 54.0
7	10½	25 2	22 36.9	2	10½	42 24	20 52.7
7	11½	25 48	22 44.1	2	10½	42 43	20 54.2
7	11½	26 27	22 33.6	2	11	43 43	21 2.0†
7	9	26 44	22 29.6	2	11½	44 16	20 52.6
7	10	27 51	22 35.7	2	10½	45 25	20 52.5
7	10½	29 18	22 35.8	2	11	45 38	19 59.7
7	11½	29 18	22 32.8	2	12	46 7	19 50.0
7	12	29 29	22 31.5	2	11½	46 36	20 54.2
7	10½	29 31	22 37.0	2	12	46 52	20 56.5
7	11	30 11	22 42.1	2	12½	46 59	20 57.0
7	10½	30 23	22 47.8	2	12½	47 1	20 7.2
7	12	30 26	22 46.8	2	11½	47 20	20 6.8
7	11½	32 20	22 49.2	2	11	47 21	20 55.5
7	9½	19 33 4	—22 43.6	2	11	19 47 34	—19 56.9

* S. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	9½	19 48 18	—19 57.3*	2	11	20 37 46	—19 28.4
2	9	48 42	19 55.3	2	11½	39 57	19 25.1
2	11	49 31	21 8.1	2	12½	40 33	19 20.2
2	12	49 45	20 59.5*	2	10½	42 0	19 31.8
2	12½	50 0	20 59.1*	2	12	42 52	19 29.0
2	9	50 33	20 0.2*	2	11	43 53	19 12.7
2	12	50 44	20 0.5	2	10	45 16	19 20.8*
2	11	51 37	21 10.5	2	11	45 44	19 18.9
2	11	52 16	21 2.8*	2	9½	46 0	19 25.0
2	11	52 32	20 2.6	2	11½	46 44	19 15.3
2	11	52 33	19 53.2	2	11	46 47	19 13.3
2	10½	53 9	20 2.3	2	11½	46 58	19 13.9
2	11½	54 15	19 50.4	2	12½	49 4	19 21.3
2	11	54 28	19 49.7	2	12½	50 19	19 25.0
2	12	54 32	20 0.4*	2	12	51 3	19 32.0
2	11	56 30	19 55.8†	2	11	52 10	19 22.5*
2	10½	56 41	19 56.5	2	11	54 15	19 12.5
2	11	57 0	20 5.6	2	11	55 40	19 12.5
2	11	57 6	20 4.1	2	11½	58 35	19 29.1
2	12	58 27	19 49.4	2	12	20 58 36	19 27.3
2	11½	19 59 44	20 10.4	2	11½	21 0 23	19 15.2
2	10	20 0 3	19 57.0	2	11	2 54	19 30.0
2	12	0 35	19 51.8	2	12	3 41	19 21.1
2	12	2 8	19 52.4	2	12½	5 45	19 23.1
2	12	2 48	20 8.4	2	10½	7 58	19 28.7
2	11	2 59	20 8.0	2	11	9 47	19 29.6
2	9	29 36	19 18.7*	2	12	13 26	19 29.1
2	11½	29 47	19 26.8	7	11	15 36	19 32.3
2	11½	29 56	19 27.6	7	11	15 50	19 33.8
2	11	30 52	19 13.7	7	11	15 50	19 49.3
2	11	33 56	19 23.5	2	11½	16 21	19 16.0
2	12	35 34	19 25.4	2	11	16 38	19 14.2::
2	11	35 46	19 25.2	2	11½	18 21	19 18.2
2	11	37 25	19 29.8	2	11½	18 27	19 18.4
2	11	20 37 26	—19 27.3	7	11	21 19 47	—19 45.2

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11½	21 20 5	—19 11.0	5	10½	21 56 2	— 9 38.0
7	12	21 30	19 47.9	5	11	56 5	9 35.4
7	12	21 31	19 44.3	5	11½	56 12	9 37.7
7	12	23 22	19 38.1	5	11	57 55	9 42.1
7	12	23 50	19 45.1	5	10½	58 18	9 46.8
7	9	23 56	19 41.2*	5	11½	58 38	9 35.9
7	12	24 3	19 37.7	5	11	58 52	9 36.2
7	11½	26 54	19 42.0	5	9½	21 58 58	9 31.4
7	11	27 11	19 36.3	5	11½	22 0 9	9 53.5
7	9½	27 49	19 38.4†	5	12	1 5	9 43.2
7	11	28 21	19 38.0	5	11½	1 5	9 46.3
7	11	29 31	19 29.3	5	11	5 35	9 48.7
7	11	30 4	19 40.6†	5	11½	6 22	9 33.5
7	12	30 25	19 39.6	5	11	7 4	9 33.4
7	10½	30 27	19 34.6	5	11	8 21	9 42.8
7	10½	30 31	19 39.6	7	11	9 34	13 45.9
7	10½	30 40	19 43.6	5	11½	9 55	9 38.7
7	11½	31 42	19 47.8	5	12	10 12	9 50.3
7	11½	32 30	19 34.9	5	12	10 25	9 36.3
7	11	33 12	19 47.4	7	11½	10 45	13 42.4
7	12	33 32	19 30.3‡	7	11½	10 48	13 42.9
7	10	34 42	19 51.1	5	11	11 27	9 40.8
7	11½	34 47	19 35.8	5	10	11 51	9 34.8
7	10½	35 9	19 31.0	5	12½	12 2	9 37.4
7	10	35 39	19 27.1	5	12½	12 3	9 35.3
7	11½	36 24	19 45.2	5	10½	12 38	9 48.0
7	11½	36 40	19 35.0	5	11	13 4	9 43.9
7	11½	36 40	19 31.2	5	11	13 46	9 38.3
7	12	36 49	19 39.7	7	10½	13 49	13 35.0
7	11	38 8	19 47.0	7	11	13 57	13 32.8
7	11½	38 12	19 46.4	5	12	14 41	9 33.9
7	10½	38 28	19 47.7	7	12	14 47	13 44.8
7	9	39 1	19 44.7§	5	11½	15 8	9 35.0
7	9	39 21	19 30.9	5	12	15 11	9 48.9
5	9½	21 55 10	— 9 48.8	5	11	22 15 20	— 9 42.3†

*(4). M. C. †(4). ‡ N. of double. § M. C.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11½	22 15 49	— 9 47.8	5	11½	22 29 46	— 9 34.1*
5	11	16 53	9 43.3	7	11	29 51	13 36.8
5	11	17 23	9 45.6	2	10	30 5	6 51.0
5	12	18 13	9 36.6	5	10½	30 6	9 38.3
5	12	18 22	9 34.6	7	9½	30 12	13 33.7
7	11	18 48	13 45.7	5	12	30 39	9 46.3
7	11	19 52	13 31.9	2	10½	31 4	6 38.0
5	11	20 9	9 36.9 :	2	10½	31 6	6 38.3
5	10½	20 32	9 30.4 :	7	10½	31 16	13 41.1
5	11	20 35	9 36.8	7	11	31 20	13 36.0
7	11	20 39	13 34.8	7	11½	31 29	13 41.3
7	10½	21 7	13 47.5 :	5	10	32 24	9 43.9
5	10½	21 19	9 48.8	5	11	32 53	9 48.1
7	11½	22 50	13 39.6	7	12	33 5	13 36.4*
5	11½	23 34	9 43.7	2	11½	33 12	6 43.2
5	11	23 39	9 47.9	2	11	33 19	6 47.1
5	11	24 10	9 35.3	7	11½	33 20	13 37.9
5	11	24 44	9 50.5	7	9½	33 47	13 39.9
5	10½	24 45	9 47.5	5	12	34 17	9 48.2
5	11½	24 46	9 39.0 :	2	10	34 26	6 31.0
5	11½	25 52	9 45.0	5	11½	34 35	9 35.7
7	12	26 21	13 31.6	7	11	35 6	13 47.3
5	11	26 45	9 47.2	2	10½	35 8	6 38.7
2	9½	26 51	6 28.9	7	11	35 9	13 38.5
5	11½	27 25	9 36.0	2	11	35 38	6 30.8
7	10	27 28	13 44.6	5	11	35 44	9 48.9
2	11	27 35	6 28.0	7	9	36 6	13 28.2†
2	11	27 52	6 32.5	5	10½	36 16	9 38.8
5	11½	27 58	9 37.5	2	11	36 46	6 46.7
5	11	27 59	9 46.4	2	11	37 22	6 43.5
2	10	28 23	6 27.7	5	10	37 26	9 46.2
5	10	28 51	9 43.5	5	11½	38 15	9 37.6
7	8	29 7	13 40.4	5	12	38 25	9 46.1
7	12	29 20	13 45.7	2	12	38 32	6 37.8
7	10½	22 29 26	—13 41.1	2	12	22 38 34	— 6 35.4

* L. of double. † S. *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11½	22 38 43	— 6 35.0	2	11	22 49 44	— 6 35.5
5	12	39 24	9 35.7	2	11	49 48	6 48.3
5	12	39 34	9 33.8	5	10½	50 30	9 47.9
5	11	39 40	9 37.0	7	12½	50 31	11 5.6
2	11	39 47	6 51.5*	2	9½	50 50	6 41.7
5	11½	39 47	9 40.8	2	10½	50 51	6 43.3
2	9½	40 14	6 52.5	7	12	51 42	10 54.7
5	10	40 16	9 28.3	7	12½	51 55	11 0.8
2	8½	40 30	6 33.4	5	12	52 34	9 48.2
5	10	41 4	9 39.3	2	12	53 0	6 44.7
2	11	42 16	6 46.9	7	9	53 6	10 56.9
5	12½	42 40	9 49.1	5	10½	53 58	9 37.2
2	11	42 48	6 33.2	5	10½	54 14	9 42.2†
5	12	42 48	9 49.2	7	9½	54 30	10 57.8
2	11½	42 52	6 40.7†	2	11	54 38	6 37.6
5	11	42 58	9 50.0	7	8½	54 43	11 2.9†
5	11½	43 24	9 32.7	7	9	55 24	11 1.6†
5	11	43 36	9 30.5	7	9	55 24	11 7.7
2	11½	43 39	6 47.4	5	12	56 5	9 39.4
5	11	44 3	9 52.8	7	10	56 12	11 6.9
5	12	44 13	9 39.6‡	5	12	56 14	9 34.7
2	11½	44 51	6 51.2	7	10½	56 22	11 5.6
2	10½	44 53	6 29.6	7	11	56 25	11 1.4
5	9½	45 36	9 43.1	2	12	56 33	6 29.7
2	11	45 43	6 45.3	7	9	56 33	11 1.3
5	10	46 17	9 32.8	2	12	57 4	6 44.2
5	11½	46 19	9 37.4	7	11½	57 7	11 2.5
5	11	46 23	9 44.4	5	11	57 17	9 41.8
5	11½	46 43	9 35.5	5	10½	57 22	9 42.1
2	10	47 11	6 38.4†	2	12	57 23	6 38.0
7	11½	48 7	10 51.0	2	12	57 43	6 49.7
2	12	48 40	6 42.4	2	11	57 46	6 45.4
5	9½	48 52	9 44.3	5	9½	58 2	9 42.5
2	12	48 54	6 34.2	5	9	58 37	9 33.3
2	11	22 49 43	— 6 47.9	7	9	22 58 40	—10 52.1

* Double. † (4). ‡ N. of double.

Days. Obs.	Mag.	α. h.	m.	s.	δ. °	′
7	11	22	58	48	—11	4.4
7	10		58	50	11	7.7
2	11½		58	59	6	43.7
2	12		58	59	6	44.6
7	11		59	0	10	53.3
7	9½		59	31	10	59.0
2	10	22	59	53	6	29.7
2	8½	23	0	5	6	30.5
7	10		0	17	10	58.1
7	10		0	42	10	55.9
5	11½		0	50	9	41.9
5	12		0	55	9	44.3
7	10½		1	13	10	58.5
2	10		1	27	6	41.4*
7	11		1	28	10	59.4
7	9½		1	33	11	9.0
7	10½		1	34	10	54.4
2	12		2	21	6	37.5
5	11		2	39	9	48.3
2	12		3	8	6	44.9
7	12		3	15	11	6.3
7	11		3	23	11	1.7
7	10		3	23	10	53.9
7	10½		3	59	10	52.7
2	11		4	12	6	37.8
5	11		4	24	9	35.1
2	11½		4	30	6	32.9
5	11		4	32	9	47.1
7	9½		4	46	10	59.9
2	11½		4	49	6	40.6
7	10½		4	57	10	58.2
2	11½		4	58	6	42.4
5	11½		5	43	9	47.2
2	12		7	19	6	45.6
2	10½	23	7	45	— 6	46.4
2	11½	23	7	56	— 6	47.5
2	12		8	53	6	40.0
2	9		8	54	6	31.8
7	12		9	11	5	41.5
7	10		9	16	5	45.0
2	12		10	27	6	45.5
2	11		10	31	6	44.7
2	11		10	39	6	48.1
7	10½		10	50	5	42.4
7	11		10	56	5	37.4*
2	11		11	32	6	37.2
2	11		11	38	6	34.1
2	11		11	42	6	32.3
2	11½		12	55	6	41.2
2	11		12	57	6	47.9
7	12		13	4	5	34.1
7	12½		13	8	5	39.8
2	11		13	29	6	42.9
2	11		14	2	6	39.0
7	9½		14	12	5	46.9
7	9½		14	50	5	33.3
2	11½		15	9	6	31.1
2	10½		15	12	6	41.4*
7	11		15	56	5	31.5
7	11		16	5	5	27.5
7	11		16	52	5	36.5
7	9½		16	54	5	33.4
2	12		17	46	6	44.1
7	11		17	59	5	42.1
2	12		18	12	6	47.8
7	10		18	17	5	41.7
7	12		18	21	5	41.8
2	12		18	35	6	44.7
2	11		18	36	6	46.6
2	11	23	19	13	— 6	31.1

* 40.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	12	23 19 55	— 5 38.5	5	11	23 30 13	+ 0 43.0
2	10	20 18	6 31.7	2	11	30 20	— 6 45.0
2	11	20 30	6 34.8	7	11	30 24	5 37.6*
7	12½	21 0	5 42.5	2	10	30 36	6 49.7
2	10½	21 8	6 32.0	7	11	30 38	5 49.6
7	11	21 12	5 45.6	7	9	30 42	— 5 50.0
7	9½	22 0	5 34.3	5	9	31 0	+ 0 44.6
2	11½	22 3	6 37.8	7	10	31 18	— 5 46.2
2	11	22 29	6 32.2	2	10	31 31	6 46.9
2	11	22 29	6 39.0	7	9	31 49	— 5 46.9:
7	8	22 30	5 40.1*	5	9½	31 57	+ 0 40.3*
7	8	22 37	5 40.2*	7	9	32 1	— 5 29.8:†
2	11	23 35	6 48.6	2	10½	32 2	— 6 49.4
2	12	23 46	6 48.9	5	8½	32 20	+ 0 42.6*
7	9½	24 7	5 34.4	5	9	32 28	+ 0 49.0
2	11½	24 15	6 45.3	7	12	32 50	— 5 46.6
2	11	24 26	6 47.3	5	9½	33 15	+ 0 49.2
2	12½	24 39	6 46.7	7	12½	33 33	— 5 31.8
7	11	24 57	5 28.4	5	11	33 47	+ 0 33.7
7	10½	25 19	5 37.8	5	11½	33 50	+ 0 36.4
7	12	25 35	5 37.5	7	9	33 52	— 5 45.4
7	12	25 36	5 44.0	5	9	34 18	+ 0 31.3
2	10½	26 7	6 44.2	5	11	34 32	+ 0 50.2
2	10	26 18	6 43.4	7	11	34 45	— 5 33.4
2	11½	26 47	6 45.7	7	12	34 59	5 47.9
2	11½	26 57	6 42.7	7	10½	35 10	— 5 37.9
7	10	26 59	5 29.9:	5	11½	35 14	+ 0 49.8
2	11½	27 39	6 33.9	5	11½	35 43	+ 0 32.0
7	11	27 48	5 42.7	7	11½	36 0	— 5 44.0
7	11	28 13	5 42.5	5	12	36 15	+ 0 37.6
2	11½	28 39	6 41.3	7	11	36 47	— 5 45.9
2	11½	29 8	6 37.3	5	12	37 5	+ 0 31.7
2	10½	29 17	— 6 37.3	7	9	37 51	— 5 37.3
5	10	29 22	+ 0 35.6	5	10½	38 24	+ 0 35.1
5	11½	23 29 48	+ 0 49.1	5	12	23 38 29	+ 0 32.4

* (4). † An 11½ *p*.

Days Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs	Mag.	α. h. m. s.	δ. ° ′
7	10½	23 38 42	— 5 40.9	7	11	23 50 46	— 5 30.7
5	11½	39 9	+ 0 33.6	5	11½	50 54	+ 0 41.0
5	10½	39 15	+ 0 36.6	5	12	51 9	+ 0 33.7
7	11½	39 28	— 5 42.6	7	11½	51 23	— 5 38.5
7	11½	39 33	5 42.0	7	10½	51 31	— 5 30.0
7	9	40 7	— 5 45.9	5	12½	52 22	+ 0 38.0
5	11	40 48	+ 0 37.9	5	12	52 26	+ 0 35.3
7	11	40 59	— 5 33.1	7	12½	53 0	— 5 45.2
7	12½	41 16	5 31.8	7	12	53 11	— 5 46.1
7	11	41 53	5 49.5	5	11½	53 26	+ 0 48.7
7	11½	42 22	— 5 31.9	7	12	53 41	— 5 38.5
5	10	42 45	+ 0 49.8	5	10½	54 10	+ 0 44.2
5	9	42 53	+ 0 53.5	7	12	54 47	— 5 33.1
7	10½	43 23	— 5 45.0	7	12	54 50	— 5 28.2
5	9½	43 25	+ 0 45.5	5	11	55 5	+ 0 48.2
5	10	43 46	+ 0 44.7	5	11½	55 26	+ 0 41.8
7	10	44 9	— 5 46.4	7	12½	55 52	— 5 43.2
7	11	44 19	5 41.5	7	12	55 54	— 5 40.1
7	11	44 28	5 39.9	5	9	55 58	+ 0 45.2
7	11	45 0	— 5 35.1	5	10½	55 58	+ 0 34.4
5	9	45 51	+ 0 52.1	7	11	56 23	— 5 43.5
5	11	46 14	+ 0 33.6	5	11½	56 25	+ 0 37.4
7	9	46 49	— 5 46.1	7	11	56 44	— 5 43.5
5	12	47 23	+ 0 50.2	7	10	57 22	5 38.5
5	12	47 42	0 59.5	7	11½	57 35	5 36.9
5	12	47 46	+ 0 50.2	7	10	58 16	— 5 37.2*
7	11	47 58	— 5 45.8	5	11½	58 33	+ 0 37.3
5	10	48 26	+ 0 43.6	5	12	58 51	0 48 5
5	11½	48 29	+ 0 33.7	5	11	59 11	0 39.7
7	11½	49 9	— 5 31.3	5	8½	23 59 39	+ 0 50.0
5	11	49 18	+ 0 44.4	7	11	0 0 11	— 5 46.5
7	10½	49 23	— 5 37.1*	5	11	0 38	+ 0 30.0
7	12½	49 36	— 5 33.5	5	12	1 15	+ 0 34.0
5	11½	49 44	+ 0 31.5	7	10½	1 24	— 5 44.4
5	10½	23 50 41	+ 0 45.5	5	11	0 1 25	+ 0 34.0

* (4).

Days	Obs.	Mag.	α	δ	Days	Obs.	Mag.	α	δ
			h. m. s.	° ′				h. m. s.	° ′
7		10½	0 1 25	− 5 41.5	5		11	0 18 7	+ 0 52.5
7		9½	1 49	5 38.5	5		11	18 36	0 32.1
7		10	2 31	5 45.3	5		10	18 57	0 34.7
7		10	2 37	− 5 37.7	5		9½	19 44	0 34.0
5		11	2 48	+ 0 47.4	5		12½	19 51	0 36.8
5		11½	2 49	0 36.0	5		11	20 12	0 47.7
5		11½	2 52	+ 0 35.2	5		11	20 23	0 48.9
7		10½	2 57	− 5 31.7	5		10	21 13	0 33.4
7		11	2 58	− 5 48.0	5		11	21 14	0 36.6
5		11½	3 2	+ 0 35.2	5		11	21 45	0 38.3
7		11½	3 12	− 5 38.5	5		11	22 40	0 49.3
5		11½	3 58	+ 0 36.7	5		9	23 12	0 47.3
7		11½	4 11	− 5 33.5	5		10½	23 18	0 44.2
5		12	4 25	+ 0 37.0	5		11	23 18	0 33.4
5		10	4 27	+ 0 44.4	5		10	23 26	0 42.3
7		11	4 29	− 5 47.7	5		9	24 15	0 41.0
7		11	4 37	5 40.9	5		11	25 9	0 34.7
7		11	4 51	− 5 30.6	5		11½	26 4	0 37.4
5		10½	5 12	+ 0 34.0	5		10	26 16	0 37.3
7		11	5 21	− 5 32.5	5		10	26 53	0 34.3
7		10	5 47	− 5 28.9	5		12	26 56	0 40.0*
5		11½	5 48	+ 0 38.7	5		11	27 25	0 45.1
5		10½	5 53	0 39.7	5		10	27 46	0 38 9
5		11	6 2	0 33 4	5		9	28 11	0 47.9
5		12	7 53	0 42.7	5		9	28 35	0 33.7
5		12	8 14	0 36.5	5		10½	29 18	0 45.1
5		11½	8 14	0 35.4	5		10½	29 49	0 45.8
5		10½	10 14	0 39.1	5		9	30 10	0 49.2
5		11½	11 21	0 35.4	5		10	31 7	0 42.2
5		10½	11 39	0 37.1	5		10½	31 32	0 48.1
5		11	12 18	0 49.6	5		12	31 43	0 38.4
5		11½	13 47	0 40.0*	5		11½	32 46	0 35.6
5		11	14 33	0 45.7	5		11½	42 56	4 12.9
5		11½	15 [illegible]	0 34.6	5		11	43 29	3 56.7
5		9	0 16 13	+ 0 42.4	5		11½	0 45 28	+ 3 59.9

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11	0 45 52	+ 3 57.8	5	11	1 35 17	+10 5.3
5	9½	46 38	3 59.6*	5	9	35 18	9 51.6
5	12	48 37	3 59.5*	5	10	35 55	10 11.7
5	11	48 48	4 2.2*	5	9	37 28	9 59.9
5	10½	48 55	3 53.5	5	11	37 37	10 6.0
5	11	49 29	4 2.5	5	8½	37 43	9 47.9
5	10	49 53	3 56.0	5	11½	40 18	10 8.1:
5	11	51 3	4 4.5	5	11½	40 31	10 4.4
5	10½	52 24	3 55.4	5	12	40 58	10 5.8
5	11	52 38	4 2.9	5	9½	41 0	9 55.7
5	11	53 58	3 56.1	5	10	41 7	10 7.7
5	11	54 48	3 56.7	5	11	41 55	10 11.3
5	11	55 6	4 5.6	5	11½	42 6	10 11.6
5	10½	55 15	3 59.1	5	11½	43 38	9 53.7
5	11	56 26	3 55.4	5	12½	43 43	9 52.7
5	12½	56 44	4 8.0	5	11	43 58	9 52.1
5	12½	57 48	3 54 9	5	10½	44 31	9 59.0
5	11	58 31	3 56.5	5	11	46 40	10 6.7
5	10½	0 59 28	3 53.0	5	11½	46 44	10 7.3
5	10	1 0 32	4 12.5	5	12	48 12	10 4.2
5	11	0 41	4 12.6	5	11	48 21	10 4.2
5	11½	1 20	3 54.5	5	12	48 22	10 1.7
5	11	1 21	4 5.3	5	11½	48 47	9 58.7*
5	12	2 18	4 6.7	5	11½	48 52	9 56.2
5	12	2 25	4 4.9	5	10	49 27	10 6.6
5	11	3 8	4 3.0:	5	10½	50 43	10 6.1
5	10	3 9	4 0.9	5	11	51 31	9 59.4
5	11	3 25	3 51.5	5	9½	51 41	10 7.0
5	9	4 10	4 5.1	5	11	51 42	10 5.1
5	10½	28 40	9 55.6	5	10½	51 51	9 53.6
5	10½	30 30	10 0.5	5	11	53 14	10 4.4
5	11	32 37	9 58.7	5	12	53 14	10 9.5
5	11	32 39	10 6.3	5	11	53 50	9 51.0
5	11½	32 59	10 0.6*	5	12	54 0	10 0.0
5	11	1 34 11	+10 5.6	5	11½	1 54 17	+10 0.0

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
29	10	21 57 46	— 9 9.4	29	12½	22 24 17	— 9 9.3
29	9	22 0 33	9 5.8	29	12½	26 18	9 12.0
29	10	1 4	9 11.1	29	12½	26 21	9 11.0
29	11½	1 57	9 13.1	29	11	28 6	9 1.4
29	11½	2 3	9 13.3	29	11	28 13	9 9.9
29	10½	2 11	9 1.7	29	11	28 35	8 56.7
29	10½	2 40	8 58.0	29	11	29 42	8 59.3
29	11	3 24	9 9.8	29	11	29 56	8 59.8
29	10	3 38	9 16.8	29	11½	30 7	9 4.1*
29	11	3 48	9 9.8	29	11½	31 28	8 57.4
29	10	5 32	8 58.0	29	11	31 56	9 1.4
29	11½	5 56	9 12.0	29	11	33 21	9 2.9
29	11	6 4	9 11.8	29	11	34 13	9 4.3
29	11½	6 17	9 12.8	29	11	37 31	9 1.7
29	11	6 18	9 2.2	29	11	38 28	9 12.4
29	11	6 18	9 7.6	29	10½	39 46	9 8.4
29	11½	8 15	9 8.1	29	12	40 2	9 14.4
29	11½	8 16	9 7.0	29	11½	40 15	9 6.9
29	11	8 43	9 6.9	29	11	41 3	8 55.6
29	11	9 7	9 16.2	29	10½	41 29	9 3.7
29	11	10 26	9 6.7	29	12	41 39	9 13.9
29	11½	10 29	9 6.4*	29	10	45 5	9 0 8
29	11½	12 1	9 9.6	29	9	45 11	8 56.0
29	11	12 28	9 5.1	29	11½	46 48	9 10.3
29	12	13 6	9 2.4	29	11	46 59	9 3.3
29	12½	14 24	9 14.5	29	12	48 29	9 6.3*
29	12½	16 20	9 1.8	29	12	52 10	8 59.8
29	11	16 53	8 59.2	29	12½	52 26	8 58.2
29	12½	17 0	9 2.2	29	12	52 33	9 2.0
29	11½	17 7	8 56.1	29	12½	52 41	9 1.4
29	11	18 7	8 58.8	29	11½	53 44	9 15.0
29	12	19 36	8 58.7	29	10½	54 8	8 57.7
29	9	19 47	8 59.6	29	12½	55 8	9 1.6
29	10	21 35	8 55 8	29	12	55 14	9 0.0
29	11	22 22 17	— 8 58.6	29	11½	22 55 27	— 8 58.1

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

141 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	11½	21 28 22	— 9 12.1	29	11½	21 46 5	— 8 58.9
29	11	28 32	9 13.2	29	11½	46 20	9 0.5
29	12½	28 37	9 8.8	29	10	46 20	9 14.0
29	10	29 46	9 6.8	29	11½	47 22	9 0.7
29	12	29 49	9 11.8	29	11½	47 37	8 53.9
29	10½	30 0	9 10.3	29	11½	47 47	9 1 3
29	10	30 9	9 9.0	29	11	48 13	8 56.6
29	12½	32 58	9 4.2	29	12	48 19	8 59.1
29	12	33 4	9 2.1	29	11	48 40	9 4.2
29	12½	33 6	8 57.2	29	11	50 37	9 1.9
29	12	33 23	8 57.4	29	11	50 37	9 0.8
29	11	33 48	8 56.3*	29	12	50 48	9 0.5
29	10½	34 13	9 3.6	29	11	50 50	8 56.7
29	10½	34 36	9 2.8	29	12½	52 13	8 56.0
29	11½	35 37	9 11.5	29	10	52 38	9 11.4
29	11	36 20	9 0.1	29	11½	53 7	9 8.5
29	10	37 4	8 56.9	29	11	53 27	9 1.2
29	10½	37 39	9 1.0	29	12	54 35	9 8.4
29	10½	37 52	8 57.0	29	12	54 50	9 8.3
29	12	38 53	8 53.7	29	10	54 58	9 8.0
29	11	40 8	9 0.2	29	11	55 41	9 13.1
29	11½	40 17	9 2.8	29	12	56 8	9 0 8
29	11	41 27	9 13.7	29	11	56 38	8 58.2
29	11	41 51	9 7.2	29	11½	57 2	8 55.4
29	11	42 20	8 57.9	29	12	57 8	8 59.5
29	12	43 16	8 56 2	29	10½	57 56	9 12.9
29	12	44 0	9 2.3	29	11	58 25	8 52.8
29	11½	44 12	9 7.1†	29	12½	58 48	8 52.8
29	11	45 11	9 12.1	29	11	58 57	8 53.5
29	12	21 45 22	— 9 14.3	29	10	21 59 34	— 8 56.6

* L. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	21 59 46	— 9 9.4	29	12½	22 24 17	— 9 9.3
29	9	22 0 33	9 5.8	29	12½	26 18	9 12.0
29	10	1 4	9 11.1	29	12½	26 21	9 11.0
29	11½	1 57	9 13.1	29	11	28 6	9 1.4
29	11½	2 3	9 13.3	29	11	28 13	9 9.9
29	10½	2 11	9 1.7	29	11	28 35	8 56.7
29	10½	2 40	8 58.0	29	11	29 42	8 59.3
29	11	3 24	9 9.8	29	11	29 56	8 59.8
29	10	3 38	9 16.8	29	11½	30 7	9 4.1*
29	11	3 48	9 9 8	29	11½	31 28	8 57.4
29	10	5 32	8 57.0	29	11	31 56	9 1.4
29	11½	5 56	9 12.0	29	11	33 21	9 2.9
29	11	6 4	9 11.8	29	11	34 13	9 4.3
29	11½	6 17	9 12.8	29	11	37 31	9 1.7
29	11	6 18	9 2.2	29	11	38 28	9 12.4
29	11	6 18	9 7.6	29	10½	39 46	9 8.4
29	11½	8 15	9 8.1	29	12	40 2	9 14.4
29	11½	8 16	9 7.0	29	11½	40 15	9 6.9
29	11	8 43	9 6.9	29	11	41 3	8 55.6
29	11	9 7	9 16.2	29	10½	41 29	9 3.7
29	11	10 26	9 6.7	29	12	41 39	9 13.9
29	11½	10 29	9 6.4*	29	10	45 5	9 0 8
29	11½	12 1	9 9.6	29	9	45 11	8 56.0
29	11	12 28	9 5.1	29	11½	46 48	9 10.3
29	12	13 6	9 2.4	29	11	46 59	9 3.3
29	12½	14 24	9 14.5	29	12	48 29	9 6.3*
29	12½	16 20	9 1.8	29	12	52 10	8 59.8
29	11	16 53	8 59.2	29	12½	52 26	8 58.2
29	12½	17 0	9 2.2	29	12	52 33	9 2.0
29	11½	17 7	8 56.1	29	12½	52 41	9 1.4
29	11	18 7	8 58.8	29	11½	53 44	9 15.0
29	12	19 36	8 58.7	29	10½	54 8	8 57.7
29	9	19 47	8 59.6	29	12½	55 8	9 1.6
29	10	21 35	8 55 8	29	12	55 14	9 0.0
29	11	22 22 17	— 8 58.6	29	11½	22 55 27	— 8 58.1

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	22 56 49	— 8 54.9	29	11	22 59 53	— 9 6.2
29	11	56 56	8 58.3	29	11	23 0 27	9 5.2
29	12	58 4	9 9.2	29	12½	1 42	8 58.7
29	12	58 26	9 8.3	29	11	2 21	9 1.9
29	12	58 26	9 8.9	29	10½	23 3 24	— 8 59 9
29	11	22 58 56	— 8 59.5				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

926 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11	21 21 40	—16 39.3	24	10½	21 32 54	—16 47.3
24	11	22 20	16 41.3*	24	12	33 46	16 34.5
24	11½	24 1	16 35.6	25	12	33 52	10 58.3
24	11	25 37	16 37.2	25	11	34 5	11 12.6
24	11½	26 45	16 36.7	24	12	34 7	16 35.0
24	12	27 17	16 38.8	25	12	34 10	11 8.8†
25	10½	27 29	11 13.8	24	11	36 3	16 47.2
24	12	28 7	16 36.7	25	10½	36 33	11 0.3
25	10	29 23	11 5.2	25	10½	36 33	10 54.7
25	11½	29 47	11 1.5	25	10½	36 58	11 3.4
25	11½	30 7	11 8.3	25	10	37 7	11 0.1
25	10	30 12	11 12.5	24	12	37 27	16 36.0
25	12	32 14	11 11.6	25	11	38 27	10 57.5
24	11½	32 50	16 45.0	24	12	39 55	16 47.7
25	10	21 32 52	—10 53.1	24	11	21 40 43	—16 46.9

* (4). † f. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11	21 40 52	—16 49.8	25	11	21 53 32	—10 55.7
24	11	41 5	16 47.0	24	10½	53 53	16 28.3
24	11	41 46	16 42.0	25	11½	53 56	10 57.9
25	11½	41 48	11 8.6	25	10½	54 7	10 54.6
24	11½	41 50	16 46.1	24	12	54 15	16 31.5
24	10½	42 6	16 30.8	24	9	54 27	16 28.7
25	11	43 49	11 11.7	25	11½	54 47	10 58.1
24	12	44 2	16 31.6	24	11½	55 22	16 31.4
24	12½	44 14	16 36.7	2	10½	55 42	14 55.7
24	11½	45 17	16 47.0	2	12	55 53	15 0.8*
24	11	45 27	16 47.7	24	11½	55 58	16 45.2
24	12	45 36	16 46.0	25	11½	56 8	11 4.9
24	11½	46 13	16 34.7	24	10	56 38	16 31.1†
24	11	46 31	16 47.1	2	10½	57 15	15 6.4
24	11	46 34	16 37.4	2	12	57 19	14 55.9
25	11½	47 41	11 12.1	24	11	57 21	16 34.4
24	10½	48 16	16 47.0:	24	11½	57 30	16 48.9
24	11	48 17	16 39.0	2	11	57 38	14 56.8
24	10½	48 30	16 42.1*	24	9	57 49	16 43.3
24	11	48 36	16 45.8	25	11½	57 59	11 10.4
2	11½	49 7	15 4.9	2	11	58 0	15 0.3
2	11½	49 33	15 10.2	25	11	58 12	11 5.9
24	10½	49 50	16 44.8	25	11½	58 12	11 7.1
2	12	50 21	15 10.5	2	10½	58 23	15 9.2
24	11	50 21	16 37.3	2	12½	58 30	15 3.4
24	11	50 47	16 44.5	24	11	58 34	16 52.4
2	12	51 11	14 59.9	2	11	58 52	14 51.9
2	10½	51 34	14 52.2	25	11	58 56	11 7.8
24	11	51 45	16 46.0	25	11½	59 10	11 11.1
24	11	51 49	16 38.1	24	11	59 15	16 47.4
25	11½	52 8	11 5.6	24	11	59 19	16 41.3
25	11½	52 9	11 4.6*	24	9	59 43	16 44.0
24	10	52 19	16 33.1	2	11½	21 59 44	15 11.4
24	11½	53 24	16 32.9	24	11½	22 0 0	16 45.5
24	11	21 53 26	—16 33.3	2	11	22 0 8	—15 11.4

* (4). † An 11th N. *f.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11	22 0 15	—15 6.7	2	12	22 14 51	—15 4.0
25	11½	0 32	10 56.6	2	12	15 12	14 58.5
2	11	0 48	15 3.9	2	10½	15 53	15 13 9
2	10	0 53	14 55.9	2	11	16 9	15 8.9
25	12	0 59	11 9.2	2	10½	17 43	15 0.6*
24	11½	1 8	16 32.3	2	11	17 52	15 9.6
2	11	1 52	14 52.3	2	11½	18 7	15 0.4
24	11	1 52	16 37.4	2	11½	19 35	15 6.0
2	11	1 56	14 58.0	2	11	20 6	15 2.5*
24	11½	2 12	16 36.2	2	11	21 4	14 59.6
2	12	2 13	15 10.4	2	11	21 37	14 57.3
2	11	2 49	14 53.5	2	11½	23 30	15 8.3
2	12	3 0	14 51.2	2	12	24 3	15 5.8:
24	11	3 4	16 51.9	2	11	25 0	15 3.8
2	11	3 23	15 9.2	2	10½	25 16	14 52.8
2	11	3 23	15 12.6	2	10½	26 45	15 11.4
2	11½	4 52	14 54.2	2	12	27 32	15 4.1
2	11	5 16	14 57.8	2	12½	27 54	15 6.1
2	12	5 35	15 7.2	2	11	28 9	14 52.6
2	11	6 43	14 57.2	2	11	28 24	15 2.6*
2	11	6 47	14 58.2	25	11	28 44	5 26.5
2	12	7 22	15 0.8	25	10½	29 10	5 22.9
2	11	7 48	15 2.7	2	12	29 53	15 8.8
2	10	7 55	14 55.7	25	12	30 13	5 23.3
2	11	9 5	14 57.7	25	10	30 15	5 11.8
2	11½	10 8	15 11.0	2	11	31 22	15 12.0
2	12	10 12	15 5.8	25	10½	31 22	5 17.5
2	11½	10 50	15 8.0	30	12	31 36	5 3.9
2	10	10 53	15 9.4	25 30	11	31 42	5 7.4
2	10	11 34	15 3.8	30	11½	31 42	5 8.5
2	10½	11 50	15 9.2	25	11½	31 48	5 11.0
2	11½	12 19	15 4.9	2	12	32 0	14 56.9
2	12	12 23	15 0.1	30	11	32 3	4 57.0
2	11½	12 39	15 10.3	2	11½	32 7	14 49.1†
2	11½	22 14 27	—15 0.8	30	11	22 32 40	— 4 55.3

* (4). † S. of double.

Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′
2		11	22 32 54	—14 56.2
2		11	32 57	15 2.5
25		12	33 10	5 14.5
30		11	33 15	5 8.8
25	30	9	33 48	5 7.3
25		10½	33 52	5 21.1*
30		10	33 53	5 8.2
25		10	34 3	5 17.4*
2		12½	34 42	15 8.1
30		11½	34 43	5 3.7
2		10	35 7	15 4.6
25		9	35 7	5 28.6
2		10	35 10	15 5.1
30		11	35 12	4 53.6
25		11½	35 55	5 30.7
30		11	36 13	4 58.1
25		11	36 14	5 24.6
30		11½	36 47	5 5.0
30		10	36 50	5 8.6
25		10½	36 52	5 18.4
30		10½	37 4	5 3.4
25		11½	37 8	5 12.2
25		11½	37 24	5 23.2
25		10½	37 35	5 27.4
30		12	37 41	5 6.2
30		12	37 45	5 5.0
25		10½	38 14	5 17.2
30		11½	38 19	4 55.8
30		10½	38 35	4 55.4
30		11½	39 1	4 55.0
30		11½	39 28	4 56.5
25		11	39 45	5 24.4†
25		10½	39 59	5 24.7‡
30		11½	40 20	5 8.3
30		11½	22 40 34	— 4 58.3

Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′
25		11	22 40 46	— 5 26.8
30		10	41 8	5 0.8
25		12½	41 41	5 10.9
25		11	41 49	5 11.1
30		10½	42 17	4 53.4
30		11	42 44	4 56.4
30		11½	43 13	5 0.8
30		11½	43 13	5 4.4
25		10	43 22	5 18.1*
30		11	43 23	5 3.6
30		11	43 40	4 59.2
25		11½	43 47	5 17.5*
25		10½	44 21	5 22.9
25		11	44 23	5 17.5*
25		11	45 1	5 25.2
30		11	45 8	5 3.9
30		10	45 12	4 55.8
30		12	45 13	5 7.4
30		10½	45 22	5 10.1
25		11½	45 53	5 25.5
30		11½	45 57	4 51.0
25		11½	46 2	5 26.8
30		11	46 49	4 51.8
25		12	46 52	5 19.0
30		10½	46 58	5 6.9
25		11½	47 7	5 17.8*
25		12	47 41	5 22.3
30		11	47 41	5 4.2
30		11½	49 7	4 55.7
25		10½	49 13	5 16.5
25		11½	49 45	5 20.1
25		12	50 14	5 17.4
30		11	51 3	5 7.3
30		11	51 9	5 6.3
25		10	22 51 14	— 5 19 0

*(4). † A 12½ *f*. ‡ A 12½ S. *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
25	11	22 53 8	— 5 15.1	26	11½	23 1 40	— 2 23.3
25	10½	53 20	5 20.6	26	11½	1 43	2 26.0
30	10½	53 54	4 51.8	25	11½	1 45	5 10.8
30	11	53 56	5 1.6	26	11½	2 4	2 12.1
30	11	53 58	5 0.0	26	11½	2 18	2 25.0
25	11	54 11	5 19.8	25	11½	2 39	5 12.7
25	11	54 45	5 20.4*	26	10	2 54	2 10.1
25	11	56 59	5 10.8	2	12	2 58	2 50.1
26	9½	57 23	2 26.6	2	11	3 1	2 47.1
25	11½	57 24	5 15.0	2	12	3 2	2 50.6
2	10½	57 30	2 38.0	26	10	3 4	2 25.7
26	11½	57 50	2 16.0	2	10½	3 10	2 33.6
26	11½	57 51	2 12.3	25	10½	3 18	5 11.2:
25	11½	57 56	5 21.7	25	9	3 24	5 8.1
26	11	57 56	2 20.2	26	11	3 41	2 18.7
25	11	58 0	5 15.0	2	10½	3 48	2 51.3
25	11½	58 3	5 16.7	26	10	3 58	2 20.0*
25	11	58 21	5 15.3	26	10½	4 0	2 29.5
26	11½	59 23	2 18.3	25	11	4 17	5 23.2
26	11	59 30	2 17.9	25	11	4 26	5 25.4
26	11	59 33	2 22.5*	26	10	4 58	2 26.2
2	12½	59 36	2 33.7	2	11	4 59	2 41.8
2	11	22 59 41	2 33.6	2	12	5 8	2 46.4
2	11	23 0 1	2 33.4	2	12	5 9	2 47.5
26	10	0 10	2 27.5	26	11	5 30	2 19.0
2	11½	0 29	2 36.6	26	11	5 33	2 19.7
2	10½	0 29	2 30.8	26	10½	5 39	2 15.3
26	10½	0 31	2 14.5	25	11½	5 40	5 27.1
26	10	0 32	2 18.3	25	10½	5 44	5 25.7
2	11	0 41	2 30.1	25	12	5 46	5 23.5
2	10½	0 42	2 40.5	25	12	5 48	5 21.7
26	11	0 56	2 27.1	26	9½	5 50	2 16.5
2	12	1 9	2 33.8	26	11½	5 52	2 19.9
2	10½	1 19	2 40.9	26	11	6 13	2 22.1
25	12	23 1 33	— 5 25.5	2	10½	23 6 49	— 2 46.8

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
2	10½	23 33 28	— 2 39.3
2	11½	33 38	2 35.4
2	11	34 0	2 34.6
26	12	34 31	2 9.3
2	11½	34 43	2 34.5
26	12	34 53	2 11.1
2	11	35 20	2 38.0
25	10	35 31	5 21.0
2	11	35 32	2 46.7
25	12	35 36	5 12.6
25	10	36 54	5 12.9
2	11½	36 57	2 38.3
25	11	36 59	5 7.6
2	11	37 16	2 39.9
2	11½	37 20	2 44.6
25	10½	37 33	5 30.0
2	10	37 43	2 46.7
2	11½	37 47	2 44.9
25	11	38 12	5 11.3
25	11	38 22	5 13.2
2	12	38 34	2 49.2
2	10½	38 57	2 49.3
26	11	39 19	2 25.3
25	10	39 37	5 18.2*
2	11	39 50	2 37.3
25	11	40 1	5 20.6†
25	10	40 1	5 23.7
2	12	40 13	2 36.4
25	11	40 28	5 19.9
2	10	40 34	2 38.1
26	10	41 2	2 18.4
25	11	41 7	5 8.8
2	10½	41 19	2 38.4
25	11½	41 20	5 10.0
2	10	23 41 28	— 2 43.3*
25	11	23 41 36	— 5 11.7
26	11	42 24	2 24.4
25	9	42 27	5 14.5
26	11	42 32	2 14.4
25	11½	42 42	5 13.6
25	11½	42 46	5 11.1
25	11½	42 50	5 13.1
25	11	42 50	5 11.1
2	10½	43 5	2 34.4
2	10	43 28	2 46.3
26	11	43 31	2 26.4
26	10	43 41	2 15.1
26	11½	43 46	2 28.0
25	10	43 59	5 11.9
2	11½	44 20	2 44.4
26	11½	44 23	2 13.1
25	11	44 32	5 12.6
26	11½	44 44	2 12.5
26	11½	44 49	2 13.5
2	11	44 50	2 43.4
2	12	45 0	2 48 5
26	11	45 6	2 12.9
2	10	45 15	2 33.6
2 26	9	46 0	2 29.7‡
26	10	46 0	2 28.9
2	12	46 6	2 37.6
26	11	46 48	2 10.2
2	11½	47 9	2 49.0
26	9½	47 36	2 24.5
26	10½	47 36	2 17.4
26	11½	47 48	2 25.0
26	11	47 54	2 16.0
2	12	48 0	2 38.3
26	11	48 18	2 23.6
2	11½	23 48 22	— 2 35.7†

* (4). † L. of double. ‡ (4). S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11	23 48 42	— 2 38.0	26	12	23 58 57	— 2 18.2
2	11½	49 23	2 37.0	26	11½	59 4	2 15.6
26	11½	49 46	2 23.3	2	11½	23 59 37	2 40.9‡
2	11	50 2	2 45.0	26	11	0 0 21	2 26.6
26	11	50 3	2 25.4	26	11	0 40	2 14.0
2	12	50 22	2 44.6	2	11	1 19	2 46.4
26	10½	50 22	2 28.8	2	11	1 23	2 46.3
2	12	50 32	2 49.4	2	11	1 31	2 45.1
26	10½	51 11	2 13.8	26	11	1 33	2 18.9
26	10½	51 40	2 27.2	26	11½	1 39	2 20.2
2	12	51 50	2 37.5*	2	11	1 41	2 37.4
26	11½	51 51	2 15.8	26	12	1 54	2 17.6
26	11	51 57	2 18.0	26	12½	2 5	2 17.1
2	10½	52 11	2 34.2	2	11	2 29	2 31.5
2	10½	52 52	2 45.9	26	11	3 5	2 15.4
26	11	53 7	2 16.4	26	11	3 17	2 18.2
26	11½	53 14	2 18.2	26	11	3 36	2 27.1
26	11½	53 24	2 15.5	26	9	3 36	— 2 14.3
26	10	53 41	2 27.5	2	11	29 43	+ 8 2.5
2	11	54 6	2 37.0	2	11	29 57	8 7.1
26	12	54 10	2 27.1	2	11½	31 11	7 53.2
2	11	54 11	2 35.8	2	11	31 41	7 55.3
26	10	54 21	2 23.2	2	11	31 50	8 0.3‡
2	11½	54 39	2 45.2	2	11	31 54	8 7.2
26	11½	54 55	2 25.7	2	11	32 18	8 7.2
2	10½	55 13	2 44.1	2	11½	33 1	7 51.7
2	10	55 27	2 39.4	2	11	33 18	7 55.4
26	10	55 32	2 29.5	2	10½	33 34	8 4.8
26	12	55 43	2 30.7†	2	10½	33 38	8 5.2
2	11	56 39	2 37.4	2	10	34 49	8 2.4
2	11	56 42	2 35.7	2	10	35 3	7 53.4
26	10	57 19	2 22.9	2	12½	35 8	7 55.8
26	9	57 44	2 16.4	2	12½	35 19	7 53 2
26	10	57 44	2 28.7	2	12	36 14	8 11.2
26	12	23 58 57	— 2 19.3	2	11	0 36 48	+ 8 5.0

* S. of double. † Two 12ths *f*. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	0 37 5	+ 8 12.4	2	11	0 55 18	+ 7 56.0
2	11½	37 31	8 1.6*	2	9	55 38	7 58.8
2	11½	37 51	8 1.6	2	11	56 19	7 54.6
2	11	38 54	7 57.8	2	11	57 7	8 2.7
2	10½	39 38	8 3.2	2	11½	57 16	8 7.7
2	11½	40 16	7 55.7	29	10½	58 14	10 46.0
2	11½	40 26	7 54.4	29	12	58 22	10 50.2
2	11	40 45	7 56.7	29	12½	0 59 34	10 44.5
2	10½	41 8	7 56.6	29	11½	1 0 16	10 37.8
2	10	41 9	7 52.1	29	11	0 38	10 43.7
2	11	42 8	7 56.0	29	9½	1 3	10 47.3
2	11½	42 45	7 56.1	29	11½	1 10	10 42.7
2	11	43 5	7 51.8	29	10½	1 52	10 37.7
2	11	44 0	7 53.9	29	11½	2 0	10 33.0
2	11	44 4	7 57.0	29	12	2 4	10 29.8
2	11	44 37	7 57.0	29	10½	2 7	10 37.7
2	10½	44 41	7 52.1	29	11	3 3	10 44.0
2	10½	45 22	8 5.1	29	11½	3 11	10 44.3
2	11½	45 29	8 6.1	29	12	3 21	10 43.4
2	11	45 47	8 5.2	29	9½	3 46	10 43.3
2	10½	45 49	7 55.3	29	9	3 57	10 40.2*
2	12	46 37	7 53.5	29	10½	4 10	10 40.3
2	12	46 39	7 49.1	29	10½	5 0	10 35.8
2	10½	47 4	8 9.1†	29	11½	5 28	10 31.1:
2	10	47 6	7 51.3	29	11½	5 34	10 30.6:
2	10	49 24	8 10.1	29	9½	5 57	10 47.7
2	12	49 45	8 1.8	29	12½	6 27	10 45.2
2	11	50 4	8 6.0	29	12	6 34	10 45.4
2	11	51 19	8 8.7	29	12	6 54	10 44.3
2	11	51 26	7 59.8	29	11	7 52	10 38.2
2	11	51 31	8 7.4	29	12	8 8	10 47.7
2	9½	52 9	8 2.2*	29	12	8 20	10 31.1
2	10½	53 42	8 5.9	29	10	9 0	10 46.7
2	12½	54 37	7 53.9	29	10½	9 11	10 51.2
2	12½	0 54 45	+ 7 57.7	29	12	1 10 6	+10 45.2

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	12	1 10 13	+10 42.4	29	11½	1 26 9	+10 43.0
29	11½	10 44	10 44.0	29	11	26 21	10 44.4
29	12	11 41	10 46.9	29	11	26 26	10 42.6
29	11	12 39	10 30.2	29	11½	27 15	10 47.3
29	10½	12 42	10 28.0	29	11½	27 32	10 36.9
29	12	13 19	10 47.7	29	11½	27 39	10 46.4
29	12	13 27	10 48.6	29	11	28 29	10 34.3
29	11	13 32	10 45.8	29	10	28 41	10 35.6
29	11½	14 31	10 38.5	29	11½	28 47	10 34.8
29	12	14 37	10 33.0	29	12	28 59	10 33.0
29	12	14 40	10 32.1	29	11½	29 7	10 32.6:
29	11	16 1	10 36.3	29	10½	29 45	10 45.0
29	11	16 19	10 34.4	29	10	30 4	10 45.4
29	10	16 48	10 44.4	29	10½	30 8	10 33.9
29	10½	17 11	10 48.1	29	11	31 24	10 35.7
29	10	17 40	10 34.5	29	10½	31 25	10 49.0
29	11	18 1	10 45.4	29	11	31 33	10 45.3
29	11	18 6	10 43.7	29	11	31 43	10 42.7
29	11½	18 13	10 44.8	29	11	34 1	10 34.6
29	11	18 55	10 48.7	29	11	34 18	10 30.7:
29	11	19 33	10 32.5	29	9½	34 57	10 46.3
29	10½	19 59	10 45.0	29	9	35 17	10 51.9
29	11	20 5	10 44.5	29	9	36 21	10 32.7
29	10	21 6	10 37.4*	29	11½	36 30	10 47.3
29	9½	21 8	10 43.7	29	11½	36 45	10 34 5
29	11	21 12	10 34.8	29	12	37 2	10 31.7
29	11	21 51	10 41.0	29	11½	38 0	10 40.8
29	10½	22 2	10 32.7	29	9½	38 6	10 46.9
29	11	22 22	10 35.5	29	11½	38 9	10 40.6*
29	11½	22 38	10 48.1	29	12	39 41	10 36.2
29	10	24 29	10 33.0	29	9	40 17	10 31.6
29	11½	24 35	10 38.6*	29	9	40 36	10 47.7
29	12½	24 35	10 31.5	29	12	41 2	10 46.5
29	12½	24 53	10 33.2	29	12	41 13	10 48.0
29	11½	1 25 20	+10 34.7	29	12	1 41 20	+10 46.8

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	21 59 46	— 9 9.4	29	12½	22 24 17	— 9 9.3
29	9	22 0 33	9 5.8	29	12½	26 18	9 12.0
29	10	1 4	9 11.1	29	12½	26 21	9 11.0
29	11½	1 59	9 13.1	29	11	28 6	9 1.4
29	11½	2 3	9 13.3	29	11	28 13	9 9.9
29	10½	2 11	9 1.7	29	11	28 35	8 56.7
29	10½	2 40	8 58.0	29	11	29 42	8 59.3
29	11	3 24	9 9.8	29	11	29 56	8 59.8
29	10	3 38	9 16.8	29	11½	30 7	9 4.1*
29	11	3 48	9 9.8	29	11½	31 28	8 57.4
29	10	5 32	8 58.0	29	11	31 56	9 1.4
29	11½	5 56	9 12.0	29	11	33 21	9 2.9
29	11	6 4	9 11.8	29	11	34 13	9 4.3
29	11½	6 17	9 12.8	29	11	37 31	9 1.7
29	11	6 18	9 2.2	29	11	38 28	9 12.4
29	11	6 18	9 7.6	29	10½	39 46	9 8.4
29	11½	8 15	9 8.1	29	12	40 2	9 14.4
29	11½	8 16	9 7.0	29	11½	40 15	9 6.9
29	11	8 43	9 6.9	29	11	41 3	8 55.6
29	11	9 7	9 16.2	29	10½	41 29	9 3.7
29	11	10 26	9 6.7	29	12	41 39	9 13.9
29	11½	10 29	9 6.4*	29	10	45 5	9 0.8
29	11½	12 1	9 9.6	29	9	45 11	8 56.0
29	11	12 28	9 5.1	29	11½	46 48	9 10.3
29	12	13 6	9 2.4	29	11	46 59	9 3.3
29	12½	14 24	9 14.5	29	12	48 29	9 6.3*
29	12½	16 20	9 1.8	29	12	52 10	8 59.8
29	11	16 53	8 59.2	29	12½	52 26	8 58.2
29	12½	17 0	9 2.2	29	12	52 33	9 2.0
29	11½	17 7	8 56.1	29	12½	52 41	9 1.4
29	11	18 7	8 58.8	29	11½	53 44	9 15.0
29	12	19 36	8 58.7	29	10½	54 8	8 57.7
29	9	19 47	8 59.6	29	12½	55 8	9 1.6
29	10	21 35	8 55 8	29	12	55 14	9 0.0
29	11	22 22 17	— 8 58.6	29	11½	22 55 27	— 8 58.1

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	22 56 49	— 8 54.9	29	11	22 59 53	— 9 6.2
29	11	56 56	8 58.3	29	11	23 0 27	9 5.2
29	12	58 4	9 9.2	29	12½	1 42	8 58.7
29	12	58 26	9 8.3	29	11	2 21	9 1.9
29	12	58 26	9 8.9	29	10½	23 3 24	— 8 59 9
29	11	22 58 56	— 8 59.5				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

926 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11	21 21 40	—10 39.3	24	10½	21 32 54	—16 47.3
24	11	22 20	16 41.3*	24	12	33 46	16 34.5
24	11½	24 1	16 35.6	25	12	33 52	10 58.3
24	11	25 37	16 37.2	25	11	34 5	11 12.6
24	11½	26 45	16 36.7	24	12	34 7	16 35.0
24	12	27 17	16 38.8	25	12	34 10	11 8.8†
25	10½	27 29	11 13.8	24	11	36 3	16 47.2
24	12	28 7	16 36.7	25	10½	36 33	11 0.3
25	10	29 23	11 5.2	25	10½	36 33	10 54.7
25	11½	29 47	11 1.5	25	10½	36 58	11 3.4
25	11½	30)	11 8.3	25	10	37 7	11 0.1
25	10	30 12	11 12 5	24	12	37 27	16 36.0
25	12	32 14	11 11.6	25	11	38 27	10 57.5
24	11½	32 50	16 45.0	24	12	39 55	16 47.7
25	10	21 32 52	—10 53.1	24	11	21 40 43	—16 46.9

* (4). † *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	11½	5 10 41	+23 21.7	29	9½	5 26 13	+23 24.4
29	11	11 34	23 25.4	29	10½	26 17	23 29.1
29	10½	11 35	23 17.5	29	12	26 42	23 24.9
29	11½	12 36	23 28.8	29	12	26 46	23 25.2
29	11	12 41	23 21.3*	29	9½	27 45	23 20.1*
29	11½	12 41	23 24.8	29	11½	28 6	23 22.1
29	11½	13 48	23 11.0	29	10	28 12	23 28.8
29	11½	13 59	23 14.5	29	11	28 23	23 23.7
29	10	15 31	23 24.2	29	11	29 47	23 24.5
29	9	15 42	23 26.7	29	11	31 2	23 15.4
29	10½	16 2	23 21.7*	29	11	31 16	23 15.0
29	12	16 34	23 15.5	29	10½	32 1	23 25.8
29	11½	17 8	23 16.3	29	11	33 27	23 16.9
29	12	17 53	23 24.7	29	12	33 45	23 22.0
29	12	18 19	23 24.9	29	12	34 4	23 23.9
29	12	18 29	23 26.2	29	11	35 13	23 11.7
29	10	18 51	23 23.9	29	10½	35 14	23 9.4
29	11	20 26	23 16.6	29	11½	35 17	23 14.7
29	11	20 29	23 15.9:	29	10½	35 53	23 27.1†
29	10½	21 22	23 29 5:	29	11½	36 24	23 14.1
29	12	21 47	23 27.0	29	11½	38 4	23 27.2
29	10	22 15	23 10.3	29	11½	38 16	23 26.6
29	10½	23 2	23 13.4	29	10½	38 35	23 26.2
29	9	23 28	23 16.7	29	10	38 47	23 11.8
29	10½	24 18	23 13.1	29	11½	39 41	23 12.5
29	10½	24 44	23 17.6	29	11	40 12	23 11.9
29	11½	25 31	23 23.8	29	12	40 47	23 13.4‡
29	11	5 25 38	+23 29.4	29	12	5 40 55	+23 13.7

* (4). † An 11th *f*. ‡ N. of double.

NOTE.—Hazy on the 30th, from 22h. 51 m., Sidereal time.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

397 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1853, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11½	1 29 12	+14 32.4	24	9½	1 43 22	+14 34.8
24	11½	30 4	14 49.8	24	11½	43 31	14 37.4
24	11	30 38	14 49.8	24	11½	43 32	14 32.8
24	11	30 47	14 35 3	24	11	43 55	14 35.1
24	12½	31 37	14 34.8	24	12½	44 52	14 40.5
24	11	31 39	14 34.5	24	11½	45 34	14 39.2
24	11	31 54	14 45.0	24	11½	46 40	14 35.7
24	12½	33 11	14 33.5	24	12	46 56	14 36.9
24	12½	33 24	14 35.3	24	9½	47 20	14 43.2
24	11	33 52	14 34.8	24	11½	47 54	14 44.2
24	11	34 9	14 31.2	24	10½	48 19	14 37.6
24	11½	34 53	14 36.9	24	11	48 29	14 35.0
24	11	35 11	14 36.8	24	12	49 6	14 42.9
24	10½	35 52	14 36.1	24	11½	49 24	14 33.8
24	11½	36 0	14 39.6*	24	9	49 44	14 48.1
24	12	36 26	14 34.1	24	12	50 37	14 38.1
24	12	36 30	14 36.2	24	11	50 47	14 35.1
24	10½	37 47	14 31.0	24	12½	50 55	14 38.1
24	11½	38 8	14 47.2	24	12½	52 31	14 35.2
24	10	38 16	14 41.5	24	11½	52 50	14 38.4
24	11	38 56	14 44.3	24	10½	53 14	14 48.8
24	11	38 57	14 49.2	24	9½	53 50	14 47.0
24	11½	39 33	14 34.4:	24	11	54 5	14 38.4
24	12	40 2	14 35.8	24	11½	55 27	14 53.1
24	11	40 10	14 40.5	24	11½	56 19	14 42.6
24	11½	40 32	14 44.5	24	11	56 31	14 49.3
24	11	41 42	14 41.8*	24	12½	56 44	14 43.0
24	11	41 56	14 46.1	24	12½	57 53	14 34.3
24	12	42 14	14 44.7	24	11½	57 57	14 32.0
24	11	1 42 20	+14 44.6	24	10	1 58 3	+14 49.7:

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
24	10	1 58 45	+14 34.7	24	11	2 13 34	+14 46.5
24	12½	59 3	14 31.7	24	11	14 44	14 42.7
24	11	59 5	14 36.8	24	12½	14 49	14 41.7
24	12½	1 59 12	14 34.1	24	12	16 46	14 45.5
24	12½	2 0 21	14 43.6	24	12½	16 47	14 46.7
24	9	0 45	14 39.3*	24	10	18 7	14 45.7
24	12½	1 54	14 49.5	24	11	18 10	14 43.2
24	12½	2 7	14 27.0	24	9½	18 20	14 41.7*
24	9½	3 17	14 49.1	24	11½	19 13	14 33.9
24	11½	3 28	14 42.1*	24	11½	19 29	14 33.1
24	12½	4 18	14 37.9	24	10½	20 37	14 43.1
24	11½	4 52	14 31.8	24	12	21 39	14 35.2
24	12	4 59	14 42.3	24	9½	21 40	14 42.5
24	12½	6 25	14 47.7	8	11	39 1	13 14.1
24	12	6 27	14 45.6	8	9½	39 46	13 28.4
24	12	6 32	14 49.3	8	12	40 5	13 28.1
24	12	6 34	14 44.3	8	11½	41 2	13 16.0
24	9½	7 4	14 32.1	8	11	42 17	13 23.4
24	10½	7 28	14 31.9	8	9	42 23	13 16.5
24	11	7 35	14 35.2	8	10½	43 13	13 26.4
24	10½	8 1	14 46.7	8	11½	43 47	13 22.0
24	11½	8 1	14 31.5	8	10½	44 42	13 18.2*
24	11	8 38	14 44.7	8	11	44 49	13 27.9
24	10½	8 58	14 43.3	8	11	45 33	13 17.3
24	12	9 4	14 34.4	8	11	45 45	13 18.6
24	11½	10 6	14 35.0	8	10	46 4	13 18.6
24	12	10 8	14 49.1	8	9½	46 18	13 26.2
24	11	10 10	14 47.0:	8	9½	46 36	13 24.7
24	12	11 13	14 32.0	8	10½	48 46	13 21.7
24	11½	11 14	14 34.6	8	10	49 21	13 25.2
24	11½	11 24	14 37.5	8	9	49 33	13 28.0
24	10½	12 20	14 49.0	8	11	50 21	13 24.0
24	12	12 33	14 44.6	8	10	51 56	13 14.1
24	12	12 48	14 48.3	24	12	53 35	14 33.1
24	12½	2 13 25	+14 49.3	24	10½	2 54 13	+14 46.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11	2 54 18	+14 42.0	24	11	3 6 54	+14 45.2
24	11	54 46	14 49.7*	24	11	7 35	14 40.1
24	12	55 3	14 42.2	24	11½	7 47	14 47.1
8	11	55 41	13 17.1	24	11	8 21	14 37.3‡
24	12	55 47	14 48.8	24	10	8 39	14 41.9
24	12	56 49	14 47.7	24	11½	9 19	14 36.0
24	10½	57 5	14 34.7	24	9½	9 22	14 32.5
8	10½	57 38	13 25.2	24	11	9 48	14 40.8
24	12	57 45	14 47.8	24	11	10 7	14 33.9
24	12	57 53	14 46.5†	24	11	10 54	14 40.1§
24	10½	58 11	14 48.5	24	12	11 20	14 38.8
8	11	58 21	13 24.7	24	12	11 27	14 34.8
8	10	58 56	13 26.1	24	12	13 8	14 47.1
24	11½	59 10	14 39.1	24	11	13 34	14 31.7
8	11	2 59 25	13 28.7	24	10½	13 44	14 33.3
24	12½	3 0 32	14 45.9	24	12	13 46	14 37.6
24	12½	0 37	14 44.9	24	10	14 25	14 51.2‖
8	10	0 45	13 23.2	24	9	15 18	14 37.7
24	9	1 41	14 48.6	24	11	15 19	14 36.7
8	10	2 6	13 29.3	24	10	15 28	14 45.6
24	9	2 28	14 48.2	24	11	15 59	14 38.7
8	10½	2 30	13 12.6	24	10½	17 8	14 34.7
24	9½	2 30	14 33.6	24	10½	17 30	14 46.0
24	10½	3 0	14 53.5	24	11½	17 38	14 36.4
24	11	3 50	14 36.1	24	11	18 6	14 38.3
24	12	3 58	14 35.2	24	11	18 47	14 37.2:
24	11	4 5	14 28.6	24	10½	18 58	14 34.2
24	12	4 43	14 31.6	24	12	19 12	14 45.7
24	12	4 58	14 33.5	24	9	19 15	14 47.6
24	12½	5 17	14 33.6	24	10	19 56	14 39.3¶
24	12½	5 28	14 32.5	24	12	20 34	14 39.3§
24	11	6 15	14 44.9	24	11½	20 44	14 37.6
24	11½	6 24	14 48.9	24	8	21 0	14 42.8
24	11	6 37	14 42.6	24	12	21 36	14 38.9
24	11	3 6 54	+14 31.2	24	11	3 22 26	+14 29.9

* *p.* of double. † L. of double. ‡ Double. § (4). ‖ A 10th S. *p.* ¶ A 10½ N. *p.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11	3 23 23	+14 37.3*	24	11	3 59 50	+17 48.5
24	9	23 26	14 32.9	24	12½	4 0 41	17 35.9
24	10½	23 44	14 39.1†	24	9	1 5	17 34.3
24	11	24 10	14 42.6‡	24	12	2 15	17 47.3
24	10½	24 27	14 47.1	24	12	4 5	17 36.3
24	9	25 20	14 33.9	24	9	4 32	17 44.4
24	12	26 17	14 47.1	24	10½	5 22	17 50.6
24	10½	26 30	14 47.9	24	11	5 29	17 37.7
24	10½	26 31	14 46.0	24	11½	5 34	17 49.0
24	11	26 35	14 49.0	24	11½	6 46	17 34.4
24	10	27 36	14 46.7	24	12	6 49	17 36.7
24	9	27 52	14 45.8	24	11	7 47	17 46.9
24	10	28 5	14 39.8	24	11½	7 55	17 30.2
24	10	28 8	14 39.7	24	11	8 31	17 34.6
24	10	30 16	14 48.6	24	12	10 1	17 37.1
24	10½	31 44	14 47.5 :	24	12	10 24	17 48.2
24	10	31 50	14 42.1†	24	11	10 26	17 47.3
24	10	31 51	14 35.1 :	24	12	10 33	17 43.2
24	10½	31 53	14 42.7†	24	11½	11 26	17 49.0
24	12	33 18	14 49.7	24	9½	11 37	17 47.8
24	10	34 16	14 40.1†	24	11½	12 5	17 34.5
24	10	34 24	14 37.3	24	11½	12 10	17 51.3
24	11½	52 29	17 38.1	24	11	13 17	17 43.3†
24	11	53 11	17 46.2	24	10	13 26	17 34.1
24	10	53 52	17 38.2	24	11½	13 29	17 34.2
24	10	54 6	17 43.0†	24	12½	13 47	17 41.6
24	12	54 13	17 37.2	24	12	15 8	17 49.0
24	10	54 49	17 49.4	24	10	15 37	17 39.0
24	11½	55 46	17 33.6	24	10½	16 5	17 40.8
24	10	55 55	17 42.2†	24	11	16 46	17 36.8
24	10	56 39	17 42.4†	24	10	17 7	17 40.2†
24	9½	57 25	17 39.3	24	11	18 59	17 42.8
24	10½	58 13	17 43.3	24	11½	19 4	17 49.1
24	10	58 14	17 50.1	24	9½	19 59	17 35.6
24	11	3 59 0	+17 44.0	24	11	4 20 6	+17 35.1

* N. of double. † (4). ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	10	4 20 37	+17 46.9	23	11	6 6 21	+26 24.7
24	10	20 43	17 41.0	23	9	6 32	26 27.5
24	11½	23 29	17 37.8	23	11	7 49	26 23.8
24	10	23 41	17 53.3	23	11	7 51	26 28.3
24	11	23 42	17 35.3	23	11½	8 0	26 23.4
24	12	27 2	17 33.2	23	10	8 26	26 24.9
24	11	27 14	17 38.5	23	10½	8 27	26 26.7
24	11	27 20	17 39.1	23	11½	10 18	26 15.8
24	9½	27 50	17 37.3	23	10½	10 19	26 17.9
24	12	28 39	17 34.9	23	10½	10 40	26 24.4
24	12	28 47	17 42.4*	23	9	11 29	26 33.3
24	11	28 53	17 37.5	23	11	12 47	26 23.1
24	12	29 24	17 44.3	23	11½	12 47	26 23.7
24	9	30 26	17 47.4	23	11½	14 31	26 25.3
24	9	30 31	17 35.6	23	10½	14 32	26 23.5*
24	11½	31 20	17 46.0	23	11½	14 34	26 26.5
24	11	31 36	17 38.1	23	10½	14 40	26 26.1
24	11	31 36	17 34.6	23	10½	15 3	26 15.8
24	11	31 43	17 51.4	23	10	16 46	26 24.7
24	11	31 53	17 38.6	23	9½	17 4	26 12.9
24	12½	33 5	17 37.3	23	11	17 7	26 17.5
24	11	33 7	17 36.8	23	11	17 12	26 18.0
24	11½	33 44	17 39.6	23	10½	18 10	26 29.1
24	9	34 1	17 35.1	23	11	18 27	26 29.0
24	10½	4 34 7	17 38.4	23	10	18 59	26 28.9
23	10½	6 1 45	26 24.7	23	11	19 5	26 30.7
23	11½	3 11	26 12.9	23	11	19 58	26 26.0
23	11½	3 38	26 12.9	23	10	20 18	26 28.5
23	10½	4 3	26 20.4	23	10	20 57	26 28.3
23	10	4 10	26 29.4	23	11½	21 53	26 27.0
23	11½	4 50	26 16.2	23	11	22 5	26 26.3
23	11	4 55	26 25.6	23	10	23 27	26 29.5
23	11	5 50	26 25.1	23	9½	23 45	26 23.7
23	11	5 52	26 27.4	23	10½	24 54	26 19.8
23	11	6 6 13	+26 25.0	23	–	6 25 15	+26 25.2†

* (4). † Small cluster.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
23	11	6 27 7	+26 10.5
23	11	27 45	26 27.1
23	9	29 19	26 26.8
23	11	29 26	26 23.4
23	12	29 26	26 26.5
23	10	30 10	26 15.4
23	10	31 19	26 19.7
23	10	31 24	26 19.3
23	11	34 47	26 29.3
23	11	35 45	26 29.8*
23	11	35 53	26 28.1
23	11	36 33	26 12.6
23	11	37 9	26 15.5
23	10½	37 14	26 14.7
23	11	37 31	26 16.9
23	10½	38 42	26 29.3
23	11½	38 46	26 12.9†
23	9½	39 29	26 27.5
23	11	39 59	26 26.8
23	11	39 59	26 28.8
23	11½	40 4	26 27.3
23	11	41 23	26 28.6
23	12	41 32	26 23.5
23	11	42 6	26 15.5
23	11	42 16	26 27.6
23	9½	42 34	26 27.3
23	9	42 46	26 23.6
23	11	42 47	26 32.0
23	12	6 43 17	+26 24.0
23	11½	6 44 5	+26 22.8
23	12	44 57	26 20.2
23	12½	45 4	26 16.3
23	12	45 17	26 21.6
23	11	47 49	26 31.4
23	11	47 55	26 20.4
23	10	49 53	26 28.9
23	11½	49 56	26 25.0
23	11½	51 12	26 25.0
23	10½	51 45	26 26.4
23	11	53 38	26 15.5
23	10	53 44	26 12.4
23	10	54 47	26 31.3
23	9½	54 48	26 24.6
23	9	55 2	26 22.8‡
23	12	56 15	26 12.6
23	12½	56 36	26 14.8*
23	10½	57 5	26 28.1§
23	10½	58 21	26 28.6
23	11½	58 32	26 28.3
23	12	58 46	26 14.7
23	12½	6 59 5	26 16.1
23	11	7 0 4	26 10.4
23	11	0 40	26 16.5
23	8	0 49	26 26.6
23	12	0 49	26 28.8‖
23	11½	2 37	26 29.4
23	9½	7 2 46	+26 20.1‡

* Double. † N. *p.* of double. ‡ (4). § L. of double. ‖ N. of double.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

34 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1854, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	10½	6 8 16	+23 1.3*	20	10½	6 17 59	+22 57.5
20	10½	8 25	22 53.9	20	–	18 52	23 1.1:
20	11	8 26	23 6.6	20	11	18 55	22 52.4
20	10	9 19	23 0.6	20	10½	19 8	22 53.8
20	11	11 51	23 5.5	20	10½	21 15	22 51.6
20	11½	11 56	23 2.6†	20	11	21 44	23 8.9
20	11	12 26	23 0.4	20	11	21 58	23 9.5
20	11½	12 47	23 2.7	20	11	22 3	23 6.8
20	11½	13 42	22 56.2	20	10½	22 16	23 7.4
20	10	13 53	22 55.6	20	10½	23 25	22 57.7
20	10½	14 1	22 57.5	20	11	23 26	22 56.4:
20	11	15 20	23 7.8	20	11	23 28	22 55.7
20	11	15 35	23 6.9	20	11	23 42	22 57.8
20	9½	15 35	23 13.8	20	11	23 45	22 56.7
20	11	16 49	23 5.3	20	11	26 6	23 8.3
20	10½	17 35	23 3.1	20	11	27 22	22 58.4:
20	10½	6 17 42	+22 52.7	20	9½	6 29 44	+23 11.5

* L. of double. † (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

1,078 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1854, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
1	11½	3 26 41	+22 36.3	1	10	3 46 27	+22 35.5
1	11	27 50	22 44.0	1	9½	46 40	22 32.5
1	11	27 58	22 37.4*	1	11½	46 59	22 32.6
1	12	30 30	22 35.7	1	11	47 15	22 43.1
1	11½	30 48	22 43.0	1	10½	47 54	22 40.7
1	9½	30 51	22 48.0	1	11½	49 52	22 45.2
1	11½	30 56	22 34.3	1	9	50 16	22 33.4
1	11	32 31	22 33.9	1	10	51 20	22 43.2
1	12	32 48	22 31.5	1	10	51 59	22 45.9
1	11	33 8	22 34.4	1	11½	53 10	22 34.4
1	11½	33 33	22 29.5	1	11½	53 35	22 32.3
1	11	33 40	22 34.8	1	11½	53 37	22 33.5
1	10	34 34	22 44.7	1	11½	54 6	22 32.2
1	10½	34 57	22 44.0	1	10	54 50	22 31.6
1	9½	35 1	22 44.6	1	11½	55 27	22 42.0
1	10	37 15	22 44.8:	1	12	55 38	22 46.0
1	11½	37 56	22 41.1	1	11½	55 54	22 31.6
1	10	37 59	22 46.3	1	11½	55 55	22 44.0
1	10½	38 57	22 45.2	1	11½	56 8	22 46.2
1	10	39 5	22 43.5	1	9½	56 29	22 45.3
1	11½	39 22	22 47.2	1	10	57 2	22 49.8
1	11½	40 2	22 45.6	1	12	57 7	22 44.8
1	11½	40 15	22 46.2	1	10½	57 42	22 48.5
1	10½	41 4	22 45.6	1	10½	57 46	22 45.4
1	10	42 2	22 41.7	1	10½	58 9	22 43.0
1	11	43 14	22 28.3	1	11	58 16	22 48.4
1	10½	44 8	22 36.3	1	10	59 5	22 31.6
1	10	45 2	22 40.9	1	11	3 59 38	22 36.9
1	12	45 5	22 41.7	1	10	4 1 28	22 26.2
1	10½	3 45 22	+22 44.3	1	11	4 1 59	+22 32.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
1	10½	4 2 21	+22 45.6	20	9½	5 28 21	+19 7.7
1	12	2 35	22 31.3	20	10½	28 28	19 10.3
1	11½	2 51	22 29.9	20	11½	30 8	18 59.3
1	11	3 43	22 41.3	20	11	30 21	18 53.1
1	9½	4 10	22 42.2	20	11½	30 27	19 2.0
1	9	4 19	22 34.1	20	11½	30 35	19 2.6
1	11	4 53	22 36.9	20	10½	30 55	19 5.3
1	10	5 31	22 32.6	20	11	31 45	19 0.9
1	11	6 13	22 44.1	20	11	32 0	19 8.7
1	10	6 17	22 48.0	20	11	32 2	19 6.2
1	9½	8 30	22 44.3	20	11	34 5	18 58.6
1	9	10 42	22 37.5	20	11	35 2	19 8.4†
1	10½	10 51	22 37.4	20	10½	36 43	18 53.1
1	11½	16 23	22 47.7	20	10½	36 46	18 55.0
1	11½	16 36	22 43.1	20	10½	36 49	18 53.9
1	10	16 36	22 48.2	20	11½	38 0	18 54.6
1	11	17 8	22 33.5	20	11	38 24	18 56.1
1	11	17 10	22 33.5	20	11	38 34	18 56.5
1	11	18 46	22 39.6*	20	11	38 55	18 59.3
1	11	22 5	22 47.6	20	11½	38 59	18 59.9
1	11	22 5	22 48.5	20	11½	39 22	19 7.6
1	12	4 22 59	22 29.9	20	10	39 45	19 7.9
20	9½	5 22 26	18 56.6	20	11	40 47	18 57.2
20	9½	22 32	18 54.2	20	11½	41 2	18 55.7
20	9½	22 52	18 53.4	20	10	43 2	19 3.9
20	11½	24 0	18 55.0	20	10	43 2	19 6.7
20	11	24 33	18 58.2	20	10	43 18	19 5.2
20	11	24 59	19 0.6	20	11	43 24	19 3.6
20	11	25 33	19 5.2	20	11½	43 27	19 5.7
20	11	25 41	19 4.0	20	11½	44 35	18 55.4
20	11½	26 43	18 55.5	20	10	45 26	18 59.7
20	11	27 18	18 59.6	20	11½	46 4	19 2.1‡
20	11	27 33	19 8.6	20	11½	47 35	18 54.9
20	10	27 33	19 10.8	20	10½	47 59	18 58.3§
20	11	5 28 18	+18 59.8	20	11½	5 48 1	+18 57.2

* (4) L. of double. † Close double. ‡ (4). § *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	10½	5 49 41	+19 0.7*	20	10	6 4 38	+18 52.5
20	11	50 2	19 2.9*	20	11	5 55	18 58.3
20	11½	50 37	18 58.5	20	10	6 19	19 3.4
20	10	51 6	19 9.5	20	11	6 44	19 9.6
20	10	51 21	19 10.6	20	11	6 49	19 9.2
20	9½	51 41	19 2.2	20	11	6 50	19 10.0:
20	11½	51 58	19 8.5	20	10½	8 5	19 0.9
20	10½	52 45	19 11.1	20	11	9 2	19 7.1
20	10	53 12	19 14 1:	20	11½	9 10	19 8.6
20	11	53 50	18 57.9	20	11½	9 51	19 3.0*
20	11	53 54	18 50.5	20	11½	9 52	18 54.0
20	10½	54 44	19 7.3	20	11	10 3	18 55.1
20	10½	54 53	19 4.6	20	9	10 27	18 55.3
20	10	55 51	18 55.9	20	11½	11 0	19 11.0
20	10	56 32	19 5.8	20	12	11 31	19 8.7
20	11½	56 39	19 7.6†	20	11	11 40	19 7.2
20	9	57 49	19 6.3	20	11	11 45	19 9.2
20	11	57 55	19 7.5	20	11	12 21	18 53.7
20	9½	58 4	19 2.6*	20	11	12 22	18 52.8
20	9	58 6	19 7.7	20	11½	12 43	18 52.4
20	10	58 18	19 3.1	20	11	12 54	18 54.4
20	10	5 59 57	19 5.0	20	10	13 1	19 3.3
20	9	6 0 4	19 12.5	20	9½	13 43	18 56.8
20	9	0 22	19 11.9	20	11	14 13	19 9.5
20	10	0 52	19 7.3	20	11½	14 35	18 56.6
20	11	1 32	18 53.6	20	11	15 3	19 6.3
20	11	1 52	18 56.2‡	20	11	15 3	19 8.3
20	11	2 3	19 1.6	20	11	15 4	19 9.2
20	9	2 13	19 7.1	20	11	16 24	18 53.2
20	10½	2 20	18 53.9	20	11	16 28	19 2.4*
20	11	3 16	18 56.6	20	11	16 34	19 4.6
20	10½	3 19	18 52.1	20	11	17 20	19 5.6
20	11	3 31	18 57.7	20	11	18 24	19 2.5
20	11½	3 34	18 53.7	20	11	18 30	19 5.8
20	9½	6 4 32	+18 52.3	20	11	6 18 41	+19 3.8

* (4). † L. of double. ‡ *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	11½	6 18 59	+19 3.5	20	11	6 34 10	+19 3.2
20	9	19 19	19 7.0	20	10½	34 19	18 57.3
20	10½	19 26	19 3.7	20	10	34 21	18 55.4
20	11	19 39	19 3.9	20	11	35 27	18 55.2
20	10½	20 16	19 4.6	20	12	35 47	18 56.1
20	11½	21 5	19 8.7	20	9½	35 51	18 56.5
20	10	21 43	18 55.9	20	8	36 14	18 51.5
20	12	22 10	18 56.6 :	20	11½	37 3	19 4.7
20	11	22 17	18 56.2 :	20	10	37 11	19 8.4
20	10	22 28	18 56.8 :	20	10	38 36	19 3.4
20	11	23 42	18 54.2	20	10	38 45	19 5.9
20	11	23 53	18 54.0	20	11½	38 59	19 6.9
20	9½	24 5	19 9.5	20	11½	39 8	19 6.1
20	9	24 33	18 53.3	20	11	39 16	19 0.9
20	9	24 35	18 53.9	20	11	39 23	19 2.8
20	10	25 3	18 50.7	20	9	40 54	18 54.6
20	10½	25 19	18 54.0 :	20	11	41 7	19 5.1
20	11½	26 12	18 55.0	20	10	41 59	19 0.2
20	11½	26 50	18 58.7	20	11½	42 32	18 53.5
20	11½	27 2	19 3.6	20	9	43 11	18 56.3
20	10½	27 7	18 55.2	20	11	43 32	18 55.6
20	10	28 23	19 4.8	20	12½	43 39	18 55.0
20	9½	28 29	19 7.3	20	12	43 47	18 54.7
20	9½	28 46	19 5.7	20	10½	44 31	18 57.2
20	11	28 52	19 3.6*	20	11	44 33	18 57.0
20	11	30 16	19 10.9	20	10½	45 14	19 2.9:*
20	11	30 17	19 9.1	20	11	45 25	19 3.7†
20	11½	30 18	19 6.0	20	11	45 34	19 7.0
20	12	31 13	18 54.5	20	10	46 2	19 7.1
20	12	31 29	18 55.1	20	11	46 41	18 53.5‡
20	11	31 29	18 53.9	20	11	48 2	19 4.8
20	11	32 26	18 59.6*	20	11	48 4	18 59.8
20	11	32 27	18 57.0	20	11	48 15	19 4.8
20	11	32 32	18 57.3	20	10½	48 32	19 7.8
20	9	6 32 34	+19 4.1	20	10	6 50 2	+18 59.1

* (4). † (4). L. of double. ‡ N. *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	11½	6 51 33	+18 58.6	2	9½	7 28 36	+17 33.9
20	11	51 43	18 59.0	20	11	28 37	21 34.9
20	11	52 1	19 3.3	2	10½	28 41	17 57.8
20	11½	53 8	19 8.5	25	11	28 43	23 32.6
20	11	53 43	19 6.9	20	11	28 54	21 37.9
20	10½	54 29	18 54.5	25	11½	29 0	23 34.8
20	11½	54 30	19 3.5*	2	10	29 3	17 31.7
20	10½	56 0	18 53.8	25	11½	29 11	23 34.7
20	11½	56 17	18 56.7	20	10½	29 16	21 35.3*
20	12	57 5	18 54.4	2	9½	29 24	17 41.5†
20	11	57 6	18 56.3	25	10½	29 34	23 37.7
20	10	57 6	18 55.4	25	10	29 52	23 35.1
20	10½	57 32	18 56.2	2	11	30 12	17 38.7
20	10	57 51	19 10.8	20	11½	30 27	21 32.1‡
20	10½	57 59	19 7.4	2	9	30 49	17 49.9
20	10½	58 24	19 7.3	25	10½	30 51	23 43.4
20	10½	58 41	19 7.9	2	11½	31 18	17 34.3
20	11	59 31	19 8.3	2	11	31 22	17 33.4
20	11	6 59 31	19 11.0	2	11	31 27	17 36.0
20	12	7 0 0	19 9.9	2	11	31 27	17 34.8
20	10	0 4	19 10.7	20	11½	31 50	21 39.5
20	10½	0 21	18 52.4	20	12	31 50	21 45.0
20	10½	0 49	18 57.4	20	11	32 0	21 45.8
20	11	1 6	18 56.2	2	10½	32 7	17 39.6
20	10½	1 24	18 56.9	20	11	32 18	21 41.6†
20	11½	2 17	19 11.0	20	9	32 19	21 47.5
20	11½	2 23	19 10.6	25	10	32 37	23 33.0
20	11	22 33	21 32.4	20	10	33 19	21 41.8
20	11	22 43	21 41 4	25	11	33 20	23 46.1
20	10	22 45	21 30.9	25	11½	33 29	23 49.8
20	11	24 49	21 34.3	2	11	33 36	17 44.4
20	11	25 14	21 37.4	20	11	33 41	21 36.9
20	11½	25 23	21 37.8	2	11	33 43	17 45.7
20	11½	27 7	21 47.6 :	2	11	33 44	17 44.1
2	11½	7 28 10	+17 47.8	20	11	7 34 6	+21 43.6

* L. of double. † (4). ‡ N. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	11½	7 34 7	+21 38.7	2	10½	7 39 15	+17 49.2
2	10	34 12	17 35.2	20	12	39 44	21 33.2
25	9½	34 20	23 46.0	25	10½	39 45	23 44.9
20	11½	34 24	21 34.9	25	10½	39 47	23 49.0
20	11½	35 8	21 32.9	20	12	39 50	21 36.4
2	9½	35 23	17 30.5	20	12½	39 51	21 30.5:
25	10½	35 26	23 34.9	2	12	40 1	17 48.1
2	11½	35 31	17 42.0	20	11	40 22	21 32.5
25	8	35 32	23 41.8	2	11½	40 25	17 48.8
20	12	35 34	21 33.8	25	9	40 32	23 38.9
25	11	35 39	23 38.4	25	11½	40 37	23 30.9
25	10½	36 2	23 38.0	2	10½	40 49	17 45.7
2	11	36 9	17 48.0	20	11½	40 56	21 36.4
2	11	36 15	17 48.6	20	11	41 0	21 34.1
20	11	36 21	21 43.5	2	11	41 5	17 48.6
20	11½	36 25	21 35.7	2	11	41 12	17 47.7
20	11½	36 32	21 37.9	20	11	41 13	21 38.5
20	10	36 32	21 32.2	20	12	41 26	21 37.1
20	11	36 37	21 36.2	20	11½	41 30	21 37.3
2	11	36 49	17 31.2	25	11	41 48	23 43.4‡
2	11	37 28	17 33.0	25	9	42 34	23 46.7
2	10	37 49	17 35.0*	2	11½	42 41	17 36.7
2	11	37 50	17 31.1	20	12	42 44	21 35.4
20	11½	37 57	21 35.6	20	11½	42 45	21 32.4
20	10	37 58	21 38.6	20	10	42 48	21 31.7
25	11	38 6	23 40.8	25	11	42 50	23 45.1
20	11½	38 12	21 37.0	2	10½	42 51	17 34.6
25	11	38 14	23 38.9	2	10	42 52	17 37.6
25	11	38 20	23 49.4	25	11	42 52	23 43.8
25	10	38 21	23 44.8	25	10½	43 6	23 45.7
20	11½	38 29	21 38.2†	2	11	43 9	17 36.2
25	11	38 29	23 45.3	20	11½	43 57	21 36.3
2	9	38 46	17 34.9	2	11½	44 7	17 34.9
2	11	38 59	17 43.6	25	10	44 16	23 35.9
2	11	7 39 11	+17 45.5	2	12	7 44 19	+17 32.7

* Double. † L. of double. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11	7 44 27	+17 33.4	25	8	7 50 50	+23 29.5
25	11½	44 28	23 34.7	25	9	51 20	23 29.2
25	11½	44 29	23 37.2	20	12	51 57	21 41.7
2	9½	45 1	17 34.7	20	9½	52 3	21 47.9
20	11½	45 4	21 34.8	2	11	52 8	17 51.6
20	11	45 15	21 39.6	2	11½	52 10	17 46.7
25	11	45 17	23 40.4 *	25	11½	52 15	23 46.6
2	11	45 19	17 28.6	25	11	52 22	23 48.9
2	10½	45 30	17 38.6	25	12	52 23	23 40.8
25	10½	45 45	23 37.8	20	11½	52 24	21 44.0 ‡
25	10½	46 8	23 38.8	25	11½	52 25	23 45.1
2	10	46 17	17 31.5	25	11½	52 26	23 47.5
2	9½	46 25	17 37.0 †	2	11	53 19	17 34.9
20	11½	46 36	21 48.6	2	11	53 33	17 47.7
25	9½	46 56	23 43.7	20	11½	53 39	21 37.8
20	9½	47 8	21 47.8	25	11	53 55	23 47.5
20	11	47 12	21 46.9	20	11	54 7	21 42.4
2	11	47 23	17 37.1	25	9	54 20	23 42.5
20	10	47 38	21 44.4	20	11½	54 22	21 39.6
25	9½	47 57	23 37.4	2	11	54 23	17 39.8
2	11	47 58	17 32 3	20	10½	54 23	21 33.5
20	11½	48 4	21 35.4 :	25	9	54 34	23 45.8
25	9	48 15	23 44.2	20	11½	54 44	21 34.2
2	11	48 18	17 47.3	25	9½	54 46	23 42.7 *
20	11½	48 33	21 33.0	25	10	54 53	23 35.2 §
2	11	48 38	17 42.4	25	9	55 2	23 49.5
25	10½	48 45	23 43.9	25	9½	55 24	23 43.5
20	10½	48 47	21 38.9 *	2	11	55 29	17 32.7
25	10	49 6	23 41.1	20	10	55 29	21 46.6
20	10	49 7	21 46.6	20	11½	55 32	21 33.3
2	11	49 17	17 38.8	20	10	55 45	21 39.8
25	10	49 18	23 42.3	20	10	55 56	21 42.3
2	11	49 21	17 32.7	2	11½	56 0	17 43.4
20	12	50 34	21 43.1	2	10	56 3	17 45.9
20	12	7 50 43	+21 32.5	20	11	7 56 12	+21 41.7

* (4). † Small star S. *p.* ‡ N. *f.* of double. § L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11	7 56 31	+17 44.4	2	11	8 3 20	+17 33.3
25	9½	56 35	23 48.9	25	11	3 23	23 49.4
25	10½	56 52	23 47.5	20	10	3 37	21 32.8
2	11½	57 8	17 34.5	25	12	3 37	23 38.8
25	11	57 22	23 45.6	25	9	3 37	23 35.2
2	9½	57 27	17 47.7	2	10	3 40	17 30.9
20	11	57 42	21 39.7	20	10½	3 50	21 32 8
2	9½	57 45	17 37.3	20	10½	3 53	21 31.1
2	9½	57 57	17 44.3	2	10	3 59	17 31.6
20	10½	57 59	21 32.9	20	9½	4 23	21 47.9
20	11	57 59	21 32.1	20	10½	4 31	21 31.9
25	10	58 30	23 37.1	20	10	4 36	21 33.5
25	10	58 58	23 43.5*	2	10½	4 55	17 42.1
20	11	59 15	21 37.6	2	10½	4 57	17 42.6
25	8½	59 22	23 36.8	20	9½	5 9	21 48.8
2	10½	59 24	17 31.8†	25	11½	5 16	23 35.8
20	11	59 26	21 37.2	2	11	5 49	17 32.0
20	9	59 28	21 32.8	25	11½	5 57	23 38.2
20	9½	59 35	21 37.0	25	12	6 36	23 43.4
2	10½	7 59 44	17 36.6	25	9	6 42	23 47.1
25	11	8 0 4	23 33.1	25	11	7 15	23 44.5
2	9	0 8	17 43.9	25	11½	7 31	23 45.0
2	10	0 16	17 37.1	25	11½	7 42	23 45.2
20	10½	0 40	21 35.7	25	11	8 0	23 37.4
25	12	0 40	23 32.4	2	9	8 33	17 45.9
20	10	0 58	21 42.1*	25	9½	8 50	23 51.4
2	11½	1 0	17 31.3	25	11½	9 4	23 48 5
2	10½	1 14	17 37.0	2	9	9 30	17 44.2
25	10½	1 26	23 47.3	25	9½	9 39	23 39.2
25	11	1 39	23 47.8	2	11½	9 43	17 47.5
25	11	1 52	23 49.3	25	11½	9 43	23 33.8
25	9	2 34	23 31.6	25	11½	9 48	23 35.8
20	10½	2 37	21 42.5	25	10½	10 2	23 30.4
25	11	2 49	23 31.6	2	11	10 6	17 44.5
20	10½	8 2 50	+21 47.0	2	10	8 10 18	+17 43.7

* (4). † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10½	8 10 44	+17 43·5	25	10	8 17 2	+23 45·9
2	11	10 58	17 36.9	25	11	17 4	23 47.7
20	11½	11 4	21 42.1	20	10	17 17	21 38.1
25	10	11 17	23 50.0	25	10½	17 32	23 35.1
25	10	11 39	23 51.4	2	11½	17 50	17 31.8
25	10	11 50	23 51.3	20	10½	17 52	21 36.3
20	11	12 5	21 43.7	2	9	17 53	17 38.7*
20	9	12 12	21 43.9	2	11½	18 14	17 31.5
25	12	12 19	23 49.1	20	11	18 29	21 49.5
2	10½	12 22	17 41.4*	25	11	18 31	23 42.8
20	10	12 27	21 37.0	25	11½	18 33	23 34.5
25	9½	12 28	23 49.4	25	11	18 38	23 42.0
2	11½	12 33	17 46.4	20	11½	19 32	21 49.6
20	11	12 38	21 34.7	2	10½	19 59	17 44.5
20	10½	12 43	21 34.4	20	10½	20 11	21 35.7
25	10½	12 43	23 37.7	20	11½	20 14	21 31.9 :
20	11	13 21	21 52.1	2	10½	20 16	17 37.6
25	11½	13 41	23 32.8	20	11½	20 21	21 36.6
20	11	13 49	21 36.3	2	10½	20 44	17 31.1
25	11	14 0	23 33.9	20	10½	20 51	21 33.4
20	12½	14 3	21 34.6	20	11	21 1	21 42.1
2	10½	14 12	17 32.4	25	10½	21 6	23 50.5
2	10½	14 25	17 31.7	20	10½	21 12	21 35.0
25	11½	14 48	23 38.4	2	10½	21 13	17 33.1
25	10	15 0	23 38.4	20	9	21 38	21 39.3
25	10	15 5	23 46.9	2	11	21 42	17 36.5 :
2	11	15 15	17 33.2	2	10	21 59	17 39.3
25	10	15 18	23 41.1	25	9	22 6	23 44.2
20	12½	15 19	21 36.2	2	9½	22 7	17 36.3
25	10½	15 21	23 40.1	20	9½	22 19	21 49.3
2	8	15 26	17 35.4	25	11	22 19	23 37.1
20	10	15 26	21 37.2	20	10	22 23	21 43.6
2	11	15 31	17 34.6	25	10	23 5	23 45.0†
20	12	16 38	21 36.9	25	10	23 14	23 36.9
25	9½	8 16 41	+23 33.7	2	11½	8 23 16	+17 32.1

* (4). † Small star *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	11	8 23 22	+21 46.9	2	12	8 30 55	+17 41.7
20	11½	23 25	21 47.5	25	11	30 55	23 43.6
2	10½	23 48	17 35.8	25	10½	30 57	23 34.2
25	12	24 18	23 37.5	20	10	30 59	21 45.1
20	11	24 32	21 43.0	2	10	31 0	17 47.3
25	11½	24 32	23 37.1	25	11	31 0	23 43.4*
2	11	24 45	17 44.9	20	11½	31 12	21 43.5
20	11	24 50	21 43.2	2	11	31 23	17 42.2
2	11	24 51	17 42.0	25	9	31 32	23 36.5
20	11½	25 5	21 43.3	20	9½	32 27	21 45.8
20	11	25 14	21 37.4	2	9	32 29	17 49.4
25	12	25 24	23 38.9	2	9	32 41	17 41.8
20	10½	25 28	21 42.2	20	10½	33 0	21 32.8
25	11	25 30	23 38.1	25	9	33 1	23 46.9
25	8½	25 42	23 45.0	25	10	33 2	23 44.9
20	10½	26 17	21 36.5	25	11	33 16	23 44.7
25	11	26 22	23 40.1	25	11	33 18	23 47.4
25	11	26 56	23 47.0	25	10	33 36	23 48.6
2	10½	27 2	17 34.3	20	9	34 8	21 44.9
20	10	27 5	21 43.9	20	11½	34 16	21 47.1:
25	10½	27 24	23 46.9	20	12	34 18	21 41.6
25	10½	27 27	23 48.6	20	11½	34 37	21 45.3
2	11	27 37	17 38.5	20	11½	34 42	21 44.6:
25	11	27 44	23 45.1	25	11½	34 56	23 48.4
20	9	27 45	21 49.8	25	10	35 21	23 42.9*
20	11	29 0	21 34.1	2	10	35 45	17 42.4
25	9½	29 10	23 38.2	25	11½	35 45	23 42.9*
20	10½	29 11	21 35.1	2	10	36 1	17 39.1
25	10½	29 12	23 36.5	20	9	36 1	21 38.4
2	10½	29 17	17 46.6	20	11	36 4	21 36.2
25	10	29 19	23 47.9	25	10	36 8	23 40.7*
2	10	29 44	17 42.4	2	9	36 24	17 42.4*
20	12	30 2	21 31.7	20	10½	36 46	21 45.2
25	10½	30 3	23 43.8	20	9	37 19	21 43.8
20	9	8 30 48	+21 50.5	2	10	8 37 37	+17 37.8

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	9½	8 37 47	+17 31.6	20	10	8 53 11	+21 46.5
20	10½	38 25	21 34.8	20	10	53 14	21 37.6
20	11	38 49	21 41.8 *	20	12	53 19	21 35.6
20	11	38 49	21 45.5	20	9½	54 39	21 34.6
2	9	39 1	17 31.7	20	9	54 40	21 31.6
20	11	39 9	21 40.2	20	10½	55 5	21 35.2
2	11½	39 18	17 38.1	20	11½	56 5	21 31.4
20	10	39 44	21 44.9	20	9	56 57	21 33.6
2	9½	40 37	17 38.7	20	11	56 58	21 44.7
2	10	40 44	17 42.5	20	8	57 17	21 39.0 *
20	11	40 58	21 42.7	20	11	57 22	21 38.1
20	11	41 14	21 41.5	20	11½	58 55	21 37.4
20	10	41 21	21 38.8	20	11	58 56	21 32.5
20	10	41 28	21 31.9	20	11½	59 4	21 35.2
20	10	41 31	21 37.1	20	10	8 59 53	21 31.7
2	10	42 6	17 34.0	20	10	9 0 6	21 36.7
20	11	43 4	21 39.0 †	20	10	1 16	21 37.0
20	12	43 51	21 39.2	20	10½	1 27	21 37.7
20	11½	44 22	21 37.1	20	9	1 40	21 35.1 ‡
20	9	44 23	21 41.7 *	20	11	2 38	21 39.2
20	9½	44 57	21 34.2	20	9½	3 13	21 43.6
20	11½	46 5	21 46.6	20	11	3 51	21 34.8
20	8½	46 16	21 33.9	20	10	4 32	21 39.9 *
20	10	46 42	21 46.2	20	9½	5 12	21 39.6
20	10	47 7	21 47.7	20	9	5 23	21 44.6
20	11	47 12	21 36.2	20	12	28 22	10 59.7
20	11½	47 33	21 46.1	20	12	28 23	10 55.8
20	12	49 2	21 45.7	20	11½	28 33	10 55.8
20	11½	49 14	21 41.2	20	11	28 52	10 55.1
20	12	49 24	21 45.1	20	11	29 48	11 0.5
20	11	50 26	21 49.4	20	11½	30 3	11 9.4
20	12	50 35	21 45.9	20	10	30 23	10 59.6
20	12	51 48	21 42.3	20	11	30 42	10 56.0
20	12	53 2	21 36 6	20	10½	31 1	11 0.1
20	12	8 53 9	+21 32.2	20	9½	9 31 33	+11 5.9 §

* (4). † (4). 12th S. *f.* ‡ An 11th *f.* § A 12th N.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	9½	9 32 18	+10 54.0	20	9½	9 49 17	+10 59.4
20	10	32 22	11 5.2	20	11	50 16	11 11.6
20	9	33 32	11 2.4*	20	10½	50 49	10 56.2
20	11	34 1	11 6.6	20	10½	51 28	11 7.4
20	9	34 5	11 6.5	20	11½	52 42	11 7.5
20	11½	34 42	11 12.7	20	11	52 45	10 56.2
20	11½	34 49	11 12.4	20	10½	52 53	11 4.6
20	10½	35 31	10 56.1	20	10	53 20	11 8.9
20	10½	36 26	11 5.0	20	10	53 24	11 11.3
20	9½	36 37	11 2.2*	20	11½	53 27	11 4.7
20	11	36 39	10 56.2	20	9½	54 53	11 11.2
20	11	36 50	11 3.8	20	10½	55 7	10 57.6
20	11½	38 31	10 56.7	20	11	55 54	11 6.9
20	9	38 34	11 4.8*	20	9½	56 7	11 5.9
20	12	39 6	10 57.6	20	10	56 18	10 57.9
20	11	40 6	10 59.1	20	11	56 43	11 1.7
20	9½	40 24	10 56.1	20	9	57 5	11 0.5
20	10	41 8	10 51.8	20	11½	57 46	11 6.3
20	11	41 15	10 51.9	20	11	58 22	11 0.3
20	11	42 6	11 4.3	20	9½	58 26	11 9.4
20	11½	42 8	11 12.2	20	9	58 51	11 9.2
20	11	43 33	11 12.6	20	11	59 17	11 7.8
20	10	43 40	11 10.2	20	10½	9 59 27	11 11.5
20	11	44 6	10 58.3	20	9½	10 0 9	11 7.4
20	11	44 51	11 0.0	20	11	0 21	10 57.8
20	10	45 33	10 58.2	20	10	1 2	11 2.2
20	11	45 49	11 6.3	20	11	2 16	11 9.8
20	11	46 11	10 57.9	20	11	2 19	11 0 8
20	11	46 53	11 7.5	20	10½	3 4	11 10.5
20	11	46 56	10 56.0	20	10½	3 8	11 6.0
20	11	46 57	10 55.7	20	10	4 18	10 58.4
20	11	47 16	11 4.5	20	11	4 58	11 6.0
20	9	49 0	11 4.5	20	11	4 59	11 1.3*
20	11½	49 11	10 54.4	20	11	5 34	11 6.3
20	11	9 49 13	+10 53.8	20	9½	10 6 10	+10 54.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	10	10 6 55	+10 59.1	20	10	10 24 23	+11 7.6
20	9	7 15	11 1.7*	20	10½	25 35	10 54.4
20	11	7 25	11 12.7	20	10½	25 42	10 57.4
20	10	7 26	11 7.4	20	10	26 30	11 14.6
20	11	8 58	11 1.6	20	11	27 40	11 6.7
20	10	9 21	11 5.2	20	11	28 8	11 0.5
20	11½	9 34	11 11.7	20	11	28 25	11 4.4
20	11½	9 41	11 7.9	20	11	28 30	11 0.1
20	10½	10 33	11 8.1	20	11½	28 38	11 5.9
20	9	11 3	11 5.5	20	11½	28 54	11 0.6
20	10½	12 35	11 10.4	20	9½	30 12	11 14.6
20	10½	12 50	11 0.0	20	11½	30 33	11 11.2
20	10½	12 52	11 10.2	20	9	30 44	10 55.6
20	10½	13 8	10 57.4	20	11	31 47	11 1.0
20	11	14 17	11 4.8	20	9½	32 29	11 4.7*
20	11	14 51	11 8.7	20	9	32 35	11 4.2*
20	11	15 6	11 9.4	20	11	33 17	11 9.6
20	11	15 7	11 6.2	20	10½	34 24	11 7.3
20	11	15 37	11 8.2	20	11	35 17	11 9.6
20	10	15 46	11 8.1	20	11	35 34	11 0.6
20	10½	16 50	10 54.7	20	9	35 36	10 57.6
20	11	17 1	10 59.6	20	11	36 35	11 14.6
20	8½	17 21	11 6.3	20	11	37 20	10 57.5
20	9	17 45	11 1.1	20	11	37 29	11 0.9
20	11	18 36	11 0.6	20	11½	37 48	10 59.9
20	10½	18 49	11 9.5:	20	11½	37 50	10 57.3
20	10½	19 20	11 5.9	20	11	39 14	10 56.5
20	9	19 56	11 6.9	20	9	39 18	11 0.2*
20	10	21 3	10 57.7:	20	11	39 23	10 54.0
20	11½	21 5	11 5.6	20	10	40 11	11 1.3
20	11½	22 17	10 56.6	20	11	43 43	11 6.1
20	11	22 37	10 57.8	20	9	43 47	11 4.5*
20	10	23 39	10 59.6	20	9	44 46	10 56.9
20	11	24 7	11 0.0	20	9½	45 37	11 0.0
20	11	10 24 17	+11 1.5*	20	10½	10 45 52	+10 59.2

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	10	10 46 26	+11 8.7	20	9½	11 31 9	— 1 56.5*
20	9	46 38	10 52.0	20	9½	31 14	1 56.7*
20	12	47 5	10 56.1	20	9	32 29	2 9.6
20	10½	47 20	10 54.2	20	11	32 56	1 59.8
20	11	48 56	11 4.6	20	11½	33 28	1 53.4
20	10½	49 52	11 6.1	20	10	33 56	1 54.4
20	11½	50 31	11 5.7	20	9	34 49	2 9.2
20	11½	50 41	11 8.5	20	10½	36 40	2 0.2
20	10½	53 27	10 55.3	20	9½	37 25	2 4.9
20	9½	54 45	11 8.1	20	10	37 30	1 57.7
20	11	54 53	11 10.8	20	10	37 48	1 55.4
20	10½	57 10	11 1.9*	20	11	37 56	2 0.9
20	8	58 24	11 7.1	20	11	38 27	1 59.1
20	9	10 59 22	10 54.8	20	10	39 21	1 59.0
20	10½	11 1 28	10 58.5	20	9½	40 3	1 49.9
20	10½	2 11	11 1.3*	20	9½	40 8	1 54.8
20	10½	2 45	11 0.0	20	10½	40 38	1 49.0
20	11	2 47	10 55.8	20	11	41 6	1 54.7
20	9	4 6	11 5.3	20	9	41 56	1 54.7
20	9	4 24	11 12.2	20	9½	42 19	1 53.1
20	10½	5 16	10 54.6	20	9½	43 9	1 56.7*
20	10½	5 31	+10 57.5	20	10	43 59	1 59.1*
20	11½	25 1	— 2 1.7	20	10½	44 4	2 5.5
20	10½	25 17	2 4.0	20	10½	44 24	2 0.6
20	11½	25 29	2 3.1	20	10½	44 58	1 53.0
20	10½	26 49	1 54.2	20	11	45 23	2 4.9
20	10½	26 56	1 54.7	20	11½	45 51	2 4.1
20	11	27 6	1 59.9	20	10	45 53	2 9.5
20	11	27 22	2 2.0	20	11	49 1	1 49.6
20	10	27 35	2 2.2	20	9	49 2	1 56.4*
20	10½	28 27	2 4.3	20	10	49 9	1 54.9
20	11	28 43	2 0.3	20	11	50 25	2 5.0
20	9	29 17	1 52.7	20	11	51 27	1 47.3
20	11	29 40	1 54.4	20	11	54 4	1 51.1
20	11	11 30 37	— 2 1.1	20	11	11 55 17	— 2 3.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	9	11 56 35	— 1 59.9	20	11	12 35 12	— 1 53.1
20	10	12 12 52	1 59.8	20	10½	36 39	2 10.3
20	11	13 40	1 55.6	20	11½	37 41	2 2.9
20	9½	14 53	1 45.8	20	11	37 45	1 59.3
20	11	16 21	2 3.9	20	11	37 55	1 58.7
20	10	17 12	2 1.5	20	11	38 32	1 51.9
20	10½	17 44	1 59.9	20	10½	40 44	1 46.6
20	11	18 11	1 55.3	20	11	41 16	1 49.3
20	9½	19 18	1 57.7	20	10½	41 24	1 50.0
20	12	19 34	1 55.3	20	11½	41 29	2 2.7
20	10	20 31	2 6.2	20	11	42 12	2 6.8
20	11	21 31	2 4.0	20	11	43 11	1 50.8
20	9½	22 3	1 59.4	20	10½	43 32	1 51.9
20	9½	22 51	1 54.6	20	11	44 58	1 53.0
20	11	23 3	1 59.0	20	11½	45 32	1 50.8
20	11	23 26	1 53.0	20	11	45 51	1 56.5
20	10½	24 0	1 50.9	20	11	46 11	1 56.4
20	10	25 20	1 49.5	20	10	47 31	1 46.3
20	11½	25 33	1 48.5	20	11	48 13	1 55.7
20	11½	26 31	1 52.7	20	10½	48 32	1 50.7
20	11½	26 37	1 54.2	20	9½	49 44	1 52.7†
20	11½	27 5	1 51.4	20	11	50 25	1 54.9
20	11	27 8	1 54.0	20	11	50 47	1 54.7
20	10	28 5	1 54.8	20	9½	52 3	1 49.5
20	10	28 38	2 7.3	20	11	52 17	2 0.5
20	11	29 20	2 1.2	20	11½	52 19	2 3.5
20	10	29 28	1 52.0	20	9½	52 42	1 53.6
20	11	29 55	1 54.2	20	11	52 51	1 55.0
20	11½	30 41	2 0.3	20	11	52 59	1 53.9
20	9	32 14	2 4.5	20	11½	54 50	2 5.5
20	8½	32 49	1 58.5*	20	9	54 57	1 48.6
20	11	32 59	2 2.2	20	10	55 29	1 59.7
20	9½	34 1	1 51.5	20	9	55 35	2 9.4
20	9½	34 14	1 52.5	20	10½	56 56	1 54.8
20	10	12 34 17	— 1 49.8	20	10½	12 57 9	— 1 55.9

* (4). † An 11th N. *p.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	11½	12 58 47	— 1 53.7	20	11	13 29 35	—14 47.1
20	11	59 15	2 1.8	20	10½	30 31	14 51.4
20	8	12 59 20	1 52.0	20	10½	31 16	14 53.8
20	10	13 0 45	1 53.2	20	12	31 20	14 51.8
20	11	2 20	2 4.7	20	10½	32 11	15 8.6
20	11	2 29	2 1.6	20	11½	35 14	14 56.2
20	10½	2 35	1 51.4	20	11	36 34	14 54.6
20	11	3 28	1 52.4	20	9½	36 55	14 51.9
20	11	5 1	2 6.2	20	10	37 51	14 52.8
20	9½	5 14	2 3.5	20	10	38 4	14 53.5
20	12	6 30	2 3.1	20	11	39 39	14 50.8
20	11½	6 42	1 57.0	20	11	40 23	14 51.0*
20	10½	7 6	2 7.1	20	11	44 21	15 2.2
20	11	25 36	14 54.1	20	11	44 39	14 56.9
20	10	25 55	14 56.8	20	10½	46 19	14 58.0†
20	11½	26 57	15 6.0	20	11	47 14	15 8.6
20	11	26 59	15 10.4	20	9½	48 48	14 53.4
20	10	28 7	14 50.6	20	10½	51 29	14 56.2
20	11	13 29 14	—15 0.7	20	10½	13 53 59	—14 54.8

* L. of double. † (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,180 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1854, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	11½	6 58 9	+18 22.1	4	10½	7 10 26	+18 31.1
4	11	58 9	18 27.0	4	9	10 36	18 30.3
4	11½	58 21	18 30.6	4	11½	11 11	18 13.1
4	9½	58 44	18 33.6	4	11½	11 23	18 15.1
4	11	6 58 54	18 30.5	4	11½	12 25	18 26.2
4	9½	7 0 37	18 15.6	4	10	12 28	18 26.1
4	12	0 58	18 28.1	4	11	12 29	18 28.5
4	11½	0 59	18 29.8	4	11½	12 29	18 31.2
4	11	1 39	18 19.5	4	10	12 54	18 19.8
4	11	1 44	18 11.8	4	10	13 52	18 14.0
4	9½	2 20	18 32.3	4	10½	14 27	18 18.4
4	11	3 3	18 14.9	4	11	14 57	18 27.9
4	10	3 8	18 21.8	4	11	15 13	18 29.9 †
4	11½	3 52	18 19.6	4	11	15 17	18 25.9
4	10½	3 59	18 17.3	4	11½	15 25	18 29.2
4	11	4 2	18 18.6	4	11½	15 39	18 26.3
4	10½	4 15	18 29.1	4	11	16 35	18 21.2
4	10½	5 54	18 25.4	4	11	17 11	18 21.1
4	10	6 2	18 30.2	4	11	18 44	18 26.7
4	11	6 13	18 21.6 *	4	11	19 13	18 14.2
4	10	6 31	18 15.7	4	11½	20 44	18 26.7
4	10½	6 55	18 19.8	4	9	20 48	18 23.4
4	10½	7 19	18 31.1	4	11½	21 7	18 29.1
4	11	7 20	18 31.3	4	10½	21 15	18 23.4 *
4	11	7 45	18 24.3	4	11	22 23	18 27.0
4	9	8 47	18 20.2	4	11	22 29	18 17.3
4	10½	8 56	18 26.2	4	11½	22 39	18 16.2
4	11	9 30	18 19.2	4	11	22 55	18 29.1
4	11	10 2	18 27.9	4	9	23 18	18 24.0
4	11	7 10 8	+18 25.2	4	11½	7 23 33	+18 30.9

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	10	7 24 3	+18 14.7 *	4	12	7 46 32	+18 26.7
4	11½	25 6	18 33.1	4	10½	46 56	18 28.8
4	10½	25 47	18 26.4	4	11½	47 3	18 18.0
4	11	25 56	18 28.5	22	11	47 6	18 6.5
4	11½	26 9	18 24.8	4	10	47 9	18 22.3
4	9½	26 34	18 10.8	4	11	47 31	18 14.6
4	10½	27 17	18 26.9	22	11	47 37	18 0.4 ‡
4	11½	28 57	18 28.6	22	10	48 4	17 55.8
4	11½	28 59	18 30.1	4	9	48 10	18 21.0
4	11½	29 8	18 28.5	22	9½	48 56	17 51.8
4	10½	30 2	18 11.7	22	10	49 4	17 57.1
4	11½	31 17	18 27.0: †	4	10	49 12	18 28.4
4	11	31 18	18 33.7	4	10½	49 18	18 32.2
4	10	32 27	18 24.5	22	10½	49 22	17 55.2
4	10	32 37	18 25.0	22	11	50 42	17 58.3
4	10	33 2	18 24.1	4	11½	50 57	18 30.2
4	11½	35 30	18 27.2	4	10½	50 58	18 27.7
4	9½	36 23	18 24.2	22	11	51 1	17 58.3
4	11	36 53	18 16.9	4	11½	51 11	18 30.8
4	9	37 24	18 31.7	4	11	51 19	18 27.3
4	10	37 40	18 27.5	22	10½	51 26	18 1.4 §
4	10½	38 50	18 18.7	4	11	52 7	18 30.8
4	10½	39 59	18 24.2	4	9½	52 9	18 25.9
4	10½	40 12	18 17.3 :	22	11½	52 48	17 53.0
4	10	41 11	18 24.4	22	10	52 53	17 50.3
4	11	41 13	18 27.7	4	11½	53 6	18 32.6
4	11	41 15	18 29.6	4	11½	53 21	18 28.7
4	10	43 12	18 18.3	22	11	53 23	18 10.7
4	11	43 46	18 18.8	4	11½	53 25	18 21.3
4	11	43 47	18 16.9	22	11	53 33	17 53.9
4	11	43 51	18 18.6	22	11	53 58	18 8.9
4	11½	45 11	18 25.8	22	11	54 8	17 51.9
4	10	45 12	18 26.2	4	10	54 38	18 34.8
4	10½	45 48	18 22.9	22	8½	55 3	18 8.6
4	11	7 45 50	+18 27.7	4	11	7 55 16	+18 16.4

* L. of double. † Double. ‡ (4). § Small star *p*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11	7 55 26	+18 10.9	21	10½	8 1 0	+16 3.7
22	11	55 33	18 0.5*	4	11½	1 7	18 31.5
22	11	55 40	17 51.9	4	11	1 20	18 27.1
22	10	55 41	18 2.1	21	12	1 25	16 8.7
4	11½	55 46	18 20.7	21	12	1 29	16 5.5
4	11½	55 46	18 19.7	22	11	1 37	18 3.0
4	10½	56 36	18 27.5	21	10	1 46	16 6.9
4	10½	56 44	18 31.4	4	11½	1 52	18 16.9
4	10½	56 46	18 14.5	22	11	2 6	18 8.6
22	10½	57 14	17 52.0	22	11	2 11	18 7.0
22	11½	57 17	17 56.8	22	10½	2 12	18 8.2
22	11	57 26	17 56.5†	21	9½	2 31	16 13.5
4	10½	57 30	18 21.1	22	9½	2 45	18 4.5
21	11½	57 54	16 10.6	4	11½	3 4	18 26.7
21	10½	58 16	16 9.1	4	8	3 4	18 24.5
21	10	58 30	16 9.4	22	10½	3 6	18 0.1
22	11	58 37	17 57.7	21	11½	3 12	15 56.1
22	11½	58 45	17 52.1	4	11½	3 23	18 28.2
21	11	59 6	16 7.1	22	11	3 32	17 58.3
4	10½	59 7	18 19.3	21	10½	3 49	16 12.0
4	10½	59 11	18 20.0	21	10½	3 49	16 8.1
21	11	59 12	16 7.6	22	10½	3 56	18 4.2
22	10½	59 17	18 9.1	4	8½	4 9	18 29.1 :
4	10½	59 18	18 20.2	21	9	4 29	16 13.7
4	9	59 25	18 24.2	21	11½	4 32	15 57.6
22	11	59 31	18 10.8	21	11½	4 45	15 58.6
21	9	59 41	15 59.4	4	9	4 58	18 18.5
4	12	59 49	18 24.7	22	10½	5 0	18 8.9
22	10½	59 50	18 11.1	21	10½	5 13	15 54.3‡
21	11½	7 59 56	15 53.6	4	9	5 31	18 26.9
21	11½	8 0 12	15 55.4	21	11	5 36	16 4.0
22	11½	0 40	18 3.6	4	10	5 41	18 26.3
22	11	0 42	18 7.6	4	10½	5 44	18 30.6
4	11½	0 49	18 28.2	21	10	5 45	16 5.3
22	11½	8 0 56	+17 58.2	21	11	8 5 53	+16 4.3

* (4). † L. of double. ‡ L. of 3.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	10	8 5 53	+17 52.5	4	11½	8 12 2	+18 19.2
4	10	6 1	18 24.5	4	11	12 10	18 15.2
22	11	6 9	18 11.0	4	11½	12 12	18 21.8
22	10½	6 32	18 3.5	22	10½	12 27	17 57.5
22	11½	6 34	17 59.1	21	11½	12 36	15 56.0
22	11½	6 49	18 3.5	22	10	12 40	18 7.1
22	11	7 16	18 1.0	22	11	12 42	17 57.8
21	10	7 17	16 7.8	22	11	12 47	18 8.0
21	11½	7 48	16 8.1	4	10	12 51	18 19.2
21	10½	7 55	16 10.7	21	11	12 52	16 7.0
22	9½	8 14	18 9.3	21	11	12 52	15 54.5
22	10	8 17	17 56.7	21	11	13 6	16 5.3
21	11	8 24	15 50.5	4	11	13 35	18 14.4
21	11	8 32	15 54.5	4	11½	13 55	18 12.7
21	11	9 0	15 57.5*	22	11	14 3	18 7.7
4	11½	9 16	18 26.8	21	12	14 4	16 0.7
21	11	9 25	16 9.6	21	10	14 30	16 1.1
21	11	9 29	16 9.9	22	11	14 46	18 7.9†
22	11	9 39	17 56.0	21	10½	14 51	16 4.0
4	11	9 43	18 26.0	4	11	14 54	18 30.2
22	11½	9 47	17 58.5	4	11	15 1	18 31.6
4	11½	9 59	18 19.1	4	12½	15 5	18 28.9
22	10	10 3	18 4.3	22	11	15 13	17 55.7
22	11½	10 4	18 5.9	22	10½	15 25	17 55.1
22	11½	10 10	18 6.2	21	10½	15 44	15 55.6
21	11	10 17	16 6.1	4	9	15 50	18 22.6
21	11	10 20	16 8.5	22	10	15 57	17 57.0
21	11	10 37	16 6.6	4	11	15 59	18 29.0
4	10½	10 41	18 14.5	21	11½	16 14	16 8.4
4	10½	10 51	18 26.8	22	11½	16 15	17 56.6
21	11	10 52	16 9.5	22	9	16 21	17 54.4
22	10½	10 56	18 0.5	4	11½	16 25	18 19.6
21	11	11 0	16 4.6	4	11½	16 29	18 21.7
21	10½	11 6	16 8.3	22	10½	17 15	18 3.3
21	11½	8 12 1	+15 54.8	22	11½	8 17 22	+18 9.3

* An 11½ N.*f.* † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	10	8 17 31	+18 2.2	27	10½	8 23 8	+15 52.1
4	10½	17 33	18 15.6	22	11	23 35	18 3.9
22	11	17 43	18 8.4	21	12	23 40	16 9.4
22	11	17 51	18 2.1	27	11	23 40	15 33.5
21	9½	18 4	16 5.3	27	10	23 45	15 32.5
21	10½	18 17	16 1.2*	4	10½	23 49	18 25.2
21	11	18 21	15 54.7	27	11½	24 8	15 43.8
4	12½	18 54	18 30.5	21	12	24 13	16 5.0
4	11½	19 20	18 22.0	27	11	24 29	15 36.7
4	10½	19 35	18 30.8	21	9½	24 30	16 10.6
22	9½	19 51	17 58.1	22	10½	24 34	17 59.4
21	10	19 54	15 53.5	21	10	25 9	16 4.6
4	11	20 3	18 27.3	4	11	25 14	18 29.3
22	11	20 12	17 59.2	22	11½	25 24	18 11.2
21	11½	20 28	16 8.6	4	11	25 33	18 27.5
21	11	20 42	16 9.7	21	10	25 37	16 9.9
22	11	20 55	18 6.0	21	12	25 42	16 7.2
22	11	20 59	18 10.3	27	11	25 47	15 38.3
4	10½	21 2	18 27.7	27	11½	25 51	15 33.4
22	11	21 39	17 56.9	27	11½	25 51	15 47.8
21	11½	21 45	15 57.1	22	11	25 58	17 55.5
22	10½	21 46	18 10.6	22	9½	26 12	17 57.8‡
21	10½	21 48	15 56.6	21	10½	26 18	15 57.4
4	10	22 4	18 19.1	27	10	26 23	15 36.3
4	11	22 6	18 30.8†	22	11	26 30	17 58.6
4	10½	22 7	18 26.6	4	11½	26 33	18 21.2
4	9	22 35	18 26.3	4	11½	26 35	18 15.2
21	11	22 35	15 55.0	4	11	26 40	18 19.3
21	11	22 37	15 55.6	27	11	26 47	15 47.0
22	11½	22 51	17 58.5	27	11	26 55	15 44.4
22	11	22 52	17 58.9	27	12	27 0	15 47.6
22	11	22 55	18 3.3	21	9½	27 1	16 10.3
22	10	23 0	18 10.6	22	10½	27 5	18 4.3
21	10½	23 2	15 50.8	22	10	27 20	18 8.0
27	11	8 23 2	+15 50.8	22	11	8 27 35	+17 56.5†

* (4). † L. of double. ‡ A small companion.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	9½	8 28 5	+18 10.6	27	12	8 33 0	+15 39.0
27	10	28 9	15 48.0*	22	10½	33 2	17 56.1
27	10½	28 20	15 32.1	22	10½	33 5	17 55.3
22	11½	28 36	18 7.5	22	10½	33 30	17 58.3
22	10½	28 43	18 7.8	27	10	33 52	15 38.2
22	9½	29 2	18 3.8	27	10	34 1	15 38.6
22	11½	29 8	18 6.7	27	11½	34 7	15 47.2
21	10½	29 9	16 6.6	27	11½	34 11	15 49.5
22	10	29 21	18 0.3	21	10	34 24	15 59.2
27	11	29 23	15 43.8	22	10½	34 26	17 49.7
27	11	29 30	15 43.4	21	10	34 33	17 54.5
27	11	29 30	15 36.5	22	10	34 39	18 0.6‡
21	11	29 41	15 56.6	21	12	34 58	15 53.9
21	11	29 45	16 6.2	22	10	35 16	17 57.0
21	10½	29 52	15 54.5	21	10½	35 21	15 53.9
22	10½	29 53	18 4.7	27	11	35 33	15 48.6
21	9½	30 11	16 1.6	27	12	35 35	15 49.7
22	11	30 14	17 54.9	27	10½	35 39	15 51.6
21	10	30 25	15 55.8	21	9½	35 43	15 59.8
22	11	30 34	17 52.3†	21	9½	35 54	15 53.9
21	10	30 47	16 6.6	27	11	36 21	15 35.5
21	10	31 9	16 6.3	22	10½	36 26	18 6.9
22	10	31 10	18 7.1	27	11	36 30	15 50.5
27	10½	31 27	15 45.4	27	11½	36 33	15 47.5
27	10	31 34	15 49.6	21	10½	36 36	15 55.7
27	12	31 48	15 48.8	22	9½	36 40	18 7.5
27	10½	31 58	15 43.5‡	22	10½	36 55	18 14.4
21	10	32 6	15 54.8	21	10½	36 58	15 55.7
22	11	32 29	17 57.6	22	11	37 24	17 55.6
22	10½	32 34	17 54.7	27	10	37 35	15 37.7
27	11	32 42	15 38.4	21	12	38 11	16 6.6§
21	9	32 44	16 3.0	27	11	38 19	15 50.4
21	11	32 45	16 4.3	27	9½	38 20	15 33.9
22	9	32 51	18 0.6	22	11½	38 28	17 53.2
27	11	8 32 54	+15 38.5	22	10	8 38 29	+17 56.7

* Last of 3. † An 11th N. *p.* ‡ (4). § A 12th N. *p.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	10½	8 38 31	+15 49.4	21	11	8 43 50	+15 57.6
21	10½	38 33	15 59.6	16	10½	43 52	18 28.8
22	11½	39 17	17 55.8	22	11	44 16	18 3.4
21	10	39 41	16 8.2	22	11	44 21	18 0.3
22	11½	39 47	17 53.9	22	12	44 23	17 57.8
22	11½	39 50	17 57.4	22	11½	44 38	18 0.1
21	11	39 59	15 59.8	22	10	44 41	18 5.4
21	11	40 9	15 56.5	27	10½	44 42	15 33.3:
27	10½	40 12	15 33.9	27	11	44 52	15 34.7
22	9½	40 24	18 3.3	27	11	45 21	15 33.3
27	11	40 27	15 36.2	27	11	45 23	15 32.4
21	10	40 45	16 4.9	27	10	45 26	15 33.8
21	10	40 57	16 1.9*	16	9	45 34	18 14.6
22	10	41 8	17 54.4	27	10	45 34	15 41.0*
27	11	41 14	15 46.2	22	11	45 35	18 8.6
27	10½	41 17	15 49.6	21	11½	45 44	16 1.5
27	10	41 26	15 33.9	16	9	45 49	18 19.8*
21	11	41 31	15 57.4	16	11	45 52	18 17.1
22	9½	42 1	18 3.3	21	11½	45 53	16 7.6
16	10	42 9	18 14.7	16	11½	46 7	18 19.3
22	11½	42 11	18 4.9	21	10½	46 7	16 7.0
22	10½	42 24	18 6.9	21	11	46 29	16 6.6
27	10½	42 24	15 50.4	22	11	46 56	17 58.9
22	10	42 25	18 3.3	16	10	46 57	18 26.1
27	11	42 35	15 37.1	22	11½	46 57	17 54.5
16	10½	42 48	18 26.5	16	12	47 3	18 21.9
22	11	42 50	17 57.4	27	10	47 11	15 46.4
16	11	43 12	18 24 3	22	11½	47 16	17 58.4
16	11½	43 27	18 28.8	27	11	47 19	15 48.1
27	10½	43 28	15 38.9	21	10	47 21	15 59.8
27	11½	43 28	15 33.2	16	9½	47 22	18 13.9
27	11	43 35	15 34.3	16	12	47 22	18 20.3
21	11	43 42	15 55.1	27	10½	47 27	15 42.7*
16	11	43 45	18 20.8	16	11½	47 38	18 23.6
27	9	8 43 46	+15 51.0	22	11	8 47 39	+18 5.6

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	10	8 47 52	+15 46.7	16	11½	8 53 7	+18 27.8
21	10½	48 0	15 55.7	22	11	53 7	18 5.2
21	11	48 3	15 53.7	22	11	53 9	18 10.5
22	11	48 8	17 54.7	16	11	53 22	18 29.0
21	10	48 11	16 0.8*	21	11	53 24	15 54.3
22	10	48 22	17 57.2	16	11	53 30	18 28.5
22	11	49 16	18 7.4	22	11	53 30	18 3.7
16 22	10½	49 19	18 14.1	22	11½	53 38	18 2.6
16	11½	49 20	18 23.1	21	10	53 43	15 55.8
16	11½	49 37	18 14.9	16	11½	54 15	18 33.0
16	11½	49 46	18 14.6	27	11	54 32	15 41.9
27	9½	49 46	15 40.0	27	12	54 44	15 38.5
27	11½	50 4	15 47.0	27	10	54 48	15 51.2
27	10	50 14	15 44.4	27	12	54 50	15 39.7
22	11	50 15	18 6.1	27	10	54 50	15 47.7
22	11½	50 17	17 59.9	21	10½	54 52	16 0.8*
16	9	50 22	18 33.2	22	10	55 7	18 13.0
27	10	50 25	15 37.2	16	11	55 12	18 23.7
22	11	50 28	18 9.3	16	10½	55 26	18 26.4
22	11	50 44	18 7.2	27	11	55 27	15 37.3
22	8½	51 1	18 1.0	22	10½	55 50	18 10.9
22	11½	51 15	18 9.0	22	10½	56 1	17 54.1
21	10	51 31	16 9.0	22	10½	56 9	17 53.7
21	10	51 39	16 8.1	21	10½	56 15	15 55.0
16	10½	51 42	18 23.0*	16	10½	56 19	18 27.8:
21	10½	51 49	16 11.3	27	11½	56 28	15 48.7
22	11	51 49	17 58.8	27	11½	56 30	15 47.3
27	11	51 51	15 37.9	16	12	56 54	18 16.9†
16	11½	51 55	18 24.7	21	10	56 57	16 5.3
27	10½	51 57	15 43.2*	16	12	57 10	18 29.8
22	10½	52 14	17 54.3	16	10½	57 29	18 23.2
22	10	52 24	18 9.8	21	11	57 29	15 57.0
16	11½	52 26	18 18.2	16	11½	57 35	18 23.1
27	11½	52 44	15 46.5	21	10½	58 15	15 56.4
22	11	8 53 0	+18 0.0	27	9½	8 58 15	+15 43.4*

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
21	10½	8 58 41	+16 9.0*	21	11½	9 3 49	+15 54.7
16	11	58 43	18 21.9	27	10	3 50	15 42.9‡
16	10½	58 48	18 28.1	3	10	3 51	12 2.0
22	11½	58 57	18 11.0	21	11½	3 51	15 56.8
22	10	59 6	18 5.2	27	10	3 51	15 33.5
3	10	59 24	12 2.6	22	10½	4 4	18 2.5
27	11	8 59 34	15 53.2	3	10	4 6	12 2.2
27	11½	9 0 6	15 37.1	3	12	4 10	12 8.1§
22	12	0 9	17 57.8	3	12	4 12	12 6.0
27	11	0 20	15 47.4	22	10½	4 20	18 1.8
16	11	0 22	18 17.2	27	11½	4 25	15 43.8
27	12	0 23	15 47.3	3	12	4 32	12 3.9
27	11½	0 29	15 48.6	22	11½	4 33	18 1.2
22	11	0 43	17 58.0	22	11	4 37	18 4.1
22	11½	0 54	17 58.8	21	11½	4 43	15 59.5
3	12	1 22	12 8.8	21	12½	4 55	15 57.9
22	10	1 25	18 3.5	16	11½	4 56	18 27.3
22	10½	1 25	18 5.7	27	10	5 8	15 39.2
16	10½	1 28	18 17.4	21	10	5 10	16 4.3
16	11	1 48	18 28.9	16	11	5 14	18 24.7
16	11	1 51	18 15.7	16	11	5 17	18 29.3
27	10½	1 51	15 36.9	21	10	5 18	16 9.1
22	10½	2 8	17 59.1	3	11	5 23	12 9.5
22	11	2 16	17 53.5†	27	10	5 38	15 34.1
3	10	2 29	11 49.6	21	11	6 8	16 10.6
27	9½	2 36	15 47.8	3	10½	6 17	11 54.2
16	11	2 39	18 21.2	21	11	6 18	16 8.8
27	9	2 40	15 33.9	21	10½	6 24	16 3.4
3	11	2 43	12 4.2	27	10	6 25	15 32.6
3	10½	2 47	11 54.4	16	11	6 33	18 20.9‡
27	9½	2 49	15 50.1	3	10	6 35	12 4.7
22	11	2 51	18 8.7	22	11	6 35	18 3.3
3	9½	3 20	11 52.1	3	11	6 38	11 59.5‖
27	10½	3 23	15 47.9 :	16	10	6 38	18 29.4
16	11½	9 3 34	+18 23.2	3	11	9 6 49	+11 59.5

* Close double. † An 11th S. *f.* ‡ (4). § L. of double. ‖ An 11th N. *p.*

Dayr. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	9 6 52	+12 4.9	3	11½	9 11 5	+11 59.2
22	10½	7 0	17 59.9	27	11½	11 5	15 33.7
21	10½	7 7	15 54.8	21	10	11 14	15 59.9
27	11	7 46	15 45.8	3	10	11 21	12 7.9
27	10½	7 51	15 48.2	22	11	11 25	18 9.9
21	12	7 52	15 57.7	22	11	11 33	18 8.5
22	11	7 52	18 5.9	16	12	11 35	18 30.9
16	12	7 58	18 29.1	16	12	11 53	18 26.7
27	11	7 58	15 46.7	22	11	11 55	18 7.6
22	10½	8 24	17 52.5	27	11½	11 58	15 37.8
21	10½	8 25	16 8.8	27	12	11 59	15 33.0
16	10½	8 31	18 15.3 *	21	10	12 4	16 4.5
3	11½	8 33	11 51.9	27	10½	12 11	15 32.3
3	11	8 36	12 3.9	3	10½	12 43	11 52.9 §
21	10	8 36	15 59.5	16	11	12 48	18 13.3
21	10	8 38	16 10.9	27	10	12 56	15 44.8
16	9½	8 39	18 28.9	16	11	12 59	18 13.4
3	10½	8 44	12 4.0	22	10½	13 3	17 58.8
21	10	8 53	16 0.0	3	11½	13 10	11 58.4 ‖
3	11½	9 31	12 9.2	3	11½	13 11	11 54.5
22	11½	9 41	17 58.8	27	10	13 17	15 38.1
21	11	9 44	16 10.4	3	10½	13 20	11 53.4
27	11½	9 46	15 37.4	22	10½	13 22	17 56.6
21	10	9 47	16 6.3 †	16	11½	13 34	18 14.5
22	11	9 56	18 7.6	27	9	13 35	15 36.9
3	10	9 59	12 6.8	22	10½	13 38	17 59.8
16	10	10 6	18 21.0 ‡	27	9½	13 44	15 48.5
27	11	10 14	15 38.1	16	11	13 45	18 13.9
27	12	10 17	15 35.8	21	11½	13 59	15 55.5
3	11½	10 28	12 7.2	27	10	14 0	15 46.1
22	11½	10 43	18 10.1	22	10	14 4	17 56.9
21	10	10 47	15 59.6	16	11	14 10	18 13.7
27	11	10 55	15 32.8	21	11	14 14	15 51.7
3	10½	10 56	12 3.7	3	11	14 25	11 56.0
3	11	9 11 3	+12 6.9	22	11	9 14 28	+18 6.6

* L. of double. † Small star S. *p.* ‡ (4). § An 11th N. p. ‖ An 11th *p.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	9½	9 14 30	+17 55.5	27	11	9 17 13	+15 45.3
3	10	14 37	11 58.8 :	16	10	17 29	18 30.6
3	9	14 43	11 54.1	21	9½	17 48	15 58.9
27	10½	14 48	15 47.3	3	10½	18 3	12 3.4
3	11½	14 56	11 58.2	16	11	18 16	18 26.9
21	10½	14 58	16 11.0	27	11	18 16	15 50.0
3	9½	15 1	11 52.9 :	3	11	18 20	12 9.0
21	10	15 4	15 56.1	22	10	18 27	18 7.4
27	10	15 7	15 47.0	21	9½	18 28	15 55.1
27	10½	15 14	15 53.0	3	11½	18 29	12 5.8
16	10½	15 17	18 26.1	21	10½	18 32	16 6.2
22	10½	15 20	18 2.6	16	11½	18 41	18 27.0
16	11	15 25	18 17.3	16	11½	18 48	18 26.7
21	11	15 25	16 8.5	21	9	18 57	15 58.5
22	11	15 31	17 53.1	27	11½	19 9	15 47.5
27	10	15 35	15 35.6	16	11	19 26	18 13.1
22	11	15 44	18 3.4	22	11	19 29	17 55.3
21 27	9	15 56	15 51.2	3	10	19 34	12 1.8
3	11½	16 5	12 5.8	21	9½	19 36	16 11.2
27	11½	16 19	15 39.4	27	11½	19 39	15 44.9
21	11½	16 23	15 53.9	27	12½	19 44	15 45.1
16	11	16 24	18 27.6	27	10½	20 9	15 45.4
27	10	16 27	15 40.0	22	11½	20 13	17 59.3
3	12	16 34	11 57.2	21	11	20 22	16 4.6 *
3	12	16 34	11 55.0	3	10½	20 25	12 3.1 *
3	9	16 44	11 57.4	22	10	20 32	18 5.6
3	12	16 44	11 55.2	3	9½	20 35	12 8.1
27	9	16 47	15 39.8	16	11½	20 39	18 24.2
21	11	16 53	16 9.3	22	11	20 42	17 59.6
22	10	16 53	18 4.0	21	10½	20 44	15 55.2
21	10½	16 58	16 5.5	22	11	20 47	17 53.9
22	11	17 7	18 10.2	27	11½	20 56	15 47.5
22	10½	17 7	18 1.2	27	12	21 4	15 54.3
21	12	17 10	16 8.4	22	10½	21 25	18 12.2
16	10	9 17 12	+18 21.2	3	10	9 21 29	+12 5.5

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	10½	9 21 34	+11 54.6 :	27	11½	9 25 58	+15 46.0
21	10½	21 43	16 7.5	16	12	25 59	18 19.8
3	12	21 55	11 54.4	27	11½	26 0	15 46.5
27	12	22 1	15 45.8	22	10½	26 11	18 3.3
22	11	22 4	18 4.0	27	11	26 11	15 46.3
27	10½	22 4	15 45.1	27	11	26 15	15 48.0
21	11	22 5	16 8.9	21	10½	26 17	15 53.0
16	11½	22 6	18 17.0	21	10	26 18	16 2.7
27	8½	22 14	15 34.3	22	10½	26 26	18 3.3
3	9	22 25	11 52.2	21	10	26 34	16 4.8
21	10½	22 27	16 11.5	21	11½	26 47	16 1.0
16	11	22 36	18 22.8*	27	11	26 48	15 43.0
3	11½	22 55	12 6.7	27	11½	26 55	15 43.4
3	10½	22 55	12 9.8	16	10½	27 20	18 14.8
3	12½	23 2	12 6.5	16	10½	27 21	18 17.5
22	11	23 5	18 9.6	16	11	27 42	18 13.6
16	10½	23 6	18 21.4	16	10	27 50	18 24.8
22	11	23 12	18 8.6	3	10	27 51	12 8.7
27	11½	23 13	15 39.3	3	8½	28 16	12 6.1
27	9½	23 23	15 39.6	27	11½	28 25	15 44.7
21	10½	23 25	16 6.9	27	11½	28 26	15 46.9
27	10	23 28	15 38.6	16	12	28 34	18 15.9
21	11½	23 38	16 3.8*	27	12	28 40	15 46.4
27	12	23 58	15 37.8	27	10½	28 48	15 42.9
3	10	24 13	12 4.6	22	11½	28 52	18 5.5
16	11	24 15	18 13.8	3	11½	29 10	11 56.0
22	11	24 33	18 0.7*	22	11½	29 10	18 8.6
27	11½	25 0	15 51.0	21	10	29 11	16 8.0
22	10½	25 5	18 5.4	22	10	29 27	17 59.4
3	10½	25 6	12 7.6 :	22	11	29 53	17 57.2
22	10	25 13	18 8.5	3	11½	29 57	12 3.7
3	11	25 17	12 4.0	3	11½	30 0	12 5.7
22	10	25 24	17 57.3	22	11½	30 9	17 58.2
27	9½	25 28	15 44.0*	27	9	30 15	15 40.1
16	10	9 25 35	+18 21.3*	27	9	9 30 29	+15 49.4

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
16	10	9 30 34	+18 24.6	3	12	9 34 34	+12 8.8
27	11	30 40	15 40.1*	3	11½	34 37	12 10.5
3	9½	31 9	11 58.2	27	10	34 39	15 47.3
3	10	31 15	11 59.6	21	11½	34 45	16 1.1†
22	9½	31 17	18 5.7	16	11	34 47	18 14.4
22	10	31 24	18 2.7	3	11½	34 51	12 4.8
21	12½	31 30	15 57.7	21	11	34 52	16 8.9
21	12½	31 35	15 53.6	27	10	35 7	15 41.4
21	12	31 36	15 57.9	21 27	10½	35 21	15 51.4
27	9½	31 40	15 33.2	27	11½	35 36	15 51.5
27	11	31 44	15 41.0	16	10½	35 46	18 14.8
27	10	31 50	15 43.1	3	9	35 53	12 5.1‡
3	11½	31 53	11 59.3	3	10	35 54	12 7.6
21	12	31 55	15 53.8	27	9½	35 55	15 35.4
27	10	32 0	15 32.6	3	11½	35 59	11 55.6
16	10	32 4	18 23.7†	3	9½	36 7	11 56.5
22	10½	32 8	18 8.1	3	9½	37 0	11 55.6
22	11	32 10	18 0.4	21	11	37 6	15 51.1
22	10½	32 19	18 5.3	27	10	37 6	15 38.1
27	11	32 20	15 43.6	27	11	37 10	15 32.7
27	11	32 32	15 43.8	3	12	37 11	11 57.1
21	11	32 34	15 55.5	21	9½	37 27	16 1.7†
16	11	32 44	18 25.8	3	9½	37 35	11 58.2
3	10	32 53	11 54.7	21	9½	37 40	15 54.2
21	10	32 58	15 59.2	27	10	37 43	15 37.7§
3	11½	33 3	12 10.9‡	21	10½	38 4	16 3.6
27	11	33 14	15 42.8	21	10½	38 17	16 1.2†
22	10½	33 28	18 11.0	27	11½	39 3	15 46.5
27	11	33 29	15 42.8	27	12	39 4	15 43.5
22	10½	33 35	17 56.9	3	12½	39 5	12 6.0
16	10	33 39	18 17.9	3	12	39 8	12 4.1
21	11½	33 39	15 54.6	27	11½	39 8	15 32.7
22	11	33 47	18 9.2	3	9	39 12	12 7.3
3	12½	34 7	12 9.8	3	9½	39 17	12 4.0
27	11	9 34 9	+15 39.3 :	21	10½	9 39 43	+16 6.1

* (4) f. of double. † (4). ‡ Double. § L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11	9 40 7	+12 10.2	21	11	9 44 48	+15 57.6
21	11½	40 15	15 56.5	21	10½	45 4	15 57.0
21	11	40 20	16 1.8	21	10½	45 5	16 3.6
27	11	40 20	15 35.8	27	11	45 23	15 46.6
27	10	40 22	15 32.4	27	11	45 26	15 46.0
21	12	40 24	15 58.5	27	9	45 47	15 48.0
27	11	40 27	15 38.6	3	11	45 54	11 54.8
27	11	40 31	15 36.9	27	9½	45 55	15 40.2
3	11	40 41	12 7.7	27	10	46 0	15 46.5
21	11½	41 6	15 53.8	27	10	46 4	15 48.5
3	10½	41 10	12 10.2	3	10	46 20	12 8.7
21	11½	41 15	15 58.6	21	11	46 43	15 56.3
3	10½	41 28	12 2.7*	27	11	47 6	15 35.3:
27	10	41 28	15 33.9	3	11½	47 11	11 54.2
3	11	42 5	11 57.2	3	12	47 20	12 4.0
27	11	42 6	15 53.4	3	10	47 26	11 57.6
21	10½	42 19	16 6.7	3	9½	47 26	12 6.1
27	10½	42 25	15 54.8	21	10½	47 27	16 8.6
21	10	42 32	16 8.9	27	10	47 27	15 50.1
21	11	42 40	15 58.9	27	11½	47 34	15 46.0
3	10	42 47	11 56.5	3	11	47 37	12 0.1
27	10	42 54	15 49.7	27	11½	47 39	15 42.7*
21	11	42 55	15 55.9	3	10	47 44	12 1.1
27	11½	43 0	15 48.9	21	11½	47 53	15 58.8†
3	11	43 3	11 57.5	27	9½	48 58	15 45.6
27	12	43 12	15 46.6	27	12	49 9	15 48.8
27	11½	43 12	15 49.7	3	12	49 24	11 52.9
27	11½	43 13	15 48.2	3	9	49 34	12 5.9
21	11½	43 31	15 58.7	21	11½	49 43	16 8.8
3	11½	44 1	11 58.0	3	11	49 50	11 53.0:
3	10½	44 3	12 6.6	3	10½	50 1	11 56.6
21	11	44 24	16 3.9*	27	11	50 4	15 30.9‡
21	11	44 29	15 57.5:	3	10½	50 25	11 54.3
3	10	44 33	12 0.1*	27	10½	50 53	15 54.1§
21	11½	9 44 42	+16 1.9	27	11½	9 50 57	+15 40.0

*(4). † A 12th N. ‡ L. of double. § An 11½ S. f.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	9 51 10	+12 7.4	27	10	9 56 19	+15 30.6
21	11	51 31	16 6.8	27	11½	56 28	15 38.5
27	9	51 33	15 44.1	21	10½	56 40	15 55.3
3	11	51 35	11 55.2	27	11	56 45	15 31.1
21	11	51 43	16 5.8	3	12	56 56	11 58.6
21	10½	51 53	16 8.2	21	11½	56 58	15 58.1
21	11	51 54	16 5.9	3	11	57 4	11 58.7
27	11½	52 0	15 36.0	3	11½	57 6	11 52.2
3	10½	52 1	11 53.5	27	11	57 58	15 40.3*
27	10½	52 22	15 38.1	27	11	58 0	15 48.7
3	11	52 31	11 54.5	27	11½	58 7	15 51.4
3	12	52 50	12 9.1	27	11	58 9	15 43.3*
21	12	52 54	16 9.1	21	10½	58 12	16 11.6
27	11½	52 54	15 35.8	21	10½	58 41	16 11.6
3	10½	53 31	11 51.5	21	10	58 43	16 9.8
27	11½	53 47	15 41.0	27	11	59 23	15 36.6
27	10	53 48	15 48.4	27	10½	59 28	15 30.3
27	11½	54 1	15 41.5	27	11½	59 31	15 43.1
27	9½	54 1	15 41.4	27	11½	59 33	15 35.8
27	9½	54 9	15 48.9	21	12	59 34	16 7.9
27	10½	54 15	15 41.4	21	11	59 35	16 10.8
27	11	54 21	15 48.9	27	11½	59 42	15 43.5
3	10½	54 24	11 58.0	27	12	9 59 52	15 40.5
27	11½	54 41	15 47.2	3	9	10 0 0	11 53.3
3	11	54 45	12 7.2	3	11½	0 1	12 2.2
27	11	55 5	15 41.2	3	12	0 11	12 4.8
21	11½	55 13	16 4.6	3	9½	0 29	11 57.7
21	10½	55 21	15 54.1	21	11½	0 49	16 9.5
21	10	55 23	16 0.2	3	10	0 54	12 6.8
27	10	55 29	15 35.2	21	11½	1 12	16 1.0
3	9	55 33	12 9.0	27	11½	1 18	15 47.5
21	10½	55 34	15 56.6	27	8½	1 39	15 45.5
3	11½	55 40	12 6.0	21	11½	1 45	16 6.6
27	12	55 50	15 37.4	27	9	1 56	15 38.5
3	10	9 55 59	+11 59.0	21	11½	10 2 8	+16 5.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	10 2 26	+12 6.8	3	11	10 24 0	+11 58.5
3	11½	2 37	12 9.5	3	11	24 43	11 55.5
21	10½	3 40	15 58.2	3	11½	25 2	12 7.5
21	10	3 41	15 51.5	3	11	25 9	11 57.3
3	10	3 43	12 7.9	3	9	25 36	12 6.6
3	11	3 56	11 58.5	3	10	26 45	12 2.0
21	11	4 4	15 53.6	3	10	29 42	12 6.3
3	12	4 9	11 57.0	3	11	31 31	11 59.4
3	10½	4 9	12 8.2	3	11	32 43	11 59.8
21	9	5 11	16 5.1	3	10	32 44	12 4.7
21	11	5 30	15 53.9	3	10	33 19	12 0.6†
3	11	5 36	12 7.8	3	10½	34 46	12 10.0
3	9	5 37	12 5.7	3	11	35 15	12 6.6
3	11½	5 50	12 4.8	3	11½	35 17	11 54.0
3	11½	7 38	11 55.6	3	11	36 5	12 9.7
3	10½	7 39	11 57.8	3	11½	36 10	11 59.3
3	11	8 3	11 57.1	3	11	36 16	12 5.9
3	9	8 12	12 11.6	3	10½	38 20	12 5.2
3	10	8 37	11 55.1	3	11	38 27	11 58.7
3	10	9 58	12 3.9*	3	11	38 47	11 54 0
3	12	10 11	11 58.5	3	10	39 38	12 13.5
3	11½	10 59	12 11.6	3	11	39 49	12 8.4
3	11	12 48	11 55.5	3	9½	40 33	12 4.2
3	10½	13 7	11 53.1	3	10½	41 50	11 59.4
3	11½	14 17	12 8.9	3	11	41 57	11 52.5
3	11	17 39	11 59.9	3	11	42 15	11 55.6
3	11	17 52	11 56.5	3	10	42 21	11 52.5
3	11	19 52	11 57.2	3	9	43 44	12 6.4
3	11	20 1	11 57.8	3	11½	43 46	12 2.0
3	11	21 23	12 6.1	3	12½	45 59	12 10.6
3	11	21 34	12 7.3	3	12½	46 8	12 6.0
3	11	22 25	12 6.4	3	10½	47 8	11 56.1
3	11	22 41	11 56.0	3	11	47 14	12 3.8
3	11	23 8	11 57.2	3	9	47 26	11 58.6
3	11	10 23 12	+11 52.4	3	12	10 47 36	+11 57.8

* L. of double. † (4).

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
3	11	10 47 47	+11 57.7	3	11½	11 31 16	— 0 43.6
3	11	48 39	12 13.7	3	12	32 10	0 31.0
3	11	48 56	12 9.4	3	11	32 36	0 32.1
3	10½	49 25	12 3.5	3	10	33 4	0 41,6
3	9	50 5	12 9.4	3	11½	33 25	0 43.0
3	9	50 8	12 4.5	3	11	33 29	0 33.6
3	9	50 54	11 54.6	3	10	34 30	0 38.6
3	11	51 33	12 10.5	3	11	34 34	0 45.4
3	9½	51 45	12 9 5	3	11½	34 53	0 42.8
3	12½	53 20	12 3.1	3	11½	35 2	0 42.5
3	11	54 37	11 54.8	3	10½	37 14	0 34.2
3	11	54 54	12 8.4	3	11	38 45	0 33.7
3	11½	55 22	12 6.1	3	10½	40 7	0 35.7
3	10½	55 23	12 12.2	3	11½	40 7	0 42.7
3	11	55 58	12 9.1	3	11½	40 29	0 43.7
3	9	57 12	12 3.5	3	10½	41 57	0 33.2
3	9	57 18	12 9.1	3	11	43 25	0 36.2
3	11½	57 30	11 59.3	3	11	45 27	0 34.3
3	11½	57 50	12 8.2	3	12	47 22	0 32.7
3	9½	58 7	12 6.6	3	11	48 27	0 34.7
3	10½	58 18	12 10.7	3	11	48 44	0 42.6
3	10	59 13	11 54.7	3	11½	50 2	0 46.5
3	11	10 59 38	11 58.6	3	11	50 14	0 44.2
3	11½	11 0 11	11 56.2	3	11½	51 3	0 37.3
3	11	0 40	11 58.8	3	10	51 9	0 29.6
3	10½	1 48	11 55.3*	3	8	53 23	0 45.2
3	12½	2 10	11 53.8	3	9	54 51	0 44.3
3	9½	3 24	11 56.9	3	8	55 10	0 35.9
3	11	5 11	12 12.9	3	11	55 22	0 48.2
3	12	6 54	12 0.5	3	10½	11 56 31	0 42.2
3	11	7 6	12 6.3	3	8	12 0 22	0 46.0
3	11	7 23	+12 4.7	3	11	1 12	0 45.3
3	11	27 7	— 0 47.5	3	11	1 23	0 32 0
3	10	27 58	0 45.0	3	9½	5 24	0 41.7
3	11½	11 31 1	— 0 51.2	3	10	12 5 44	— 0 36.8

* L. of double.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

1,544 STARS NEAR THE ECLIPTIC,

OBSERVED IN APRIL, 1854, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11	9 54 29	+ 7 28.3	3	11½	10 8 43	+ 7 20.7
3	10	54 40	7 21.8*	3	9½	9 21	7 20.8
3	10½	54 45	7 29.1	3	9½	9 26	7 18.6†
3	12	54 56	7 29.5	3	9	9 48	7 27.9
3	11½	55 17	7 26.2	3	10	9 59	7 14.4
3	10½	55 41	7 15.5	3	8½	10 17	7 22.7*
3	10½	55 55	7 19.0	3	10	10 59	7 22.9
3	12	57 11	7 25.7	3	11	12 40	7 30.6
3	12	57 12	7 32.5	3	11	13 13	7 16.8
3	11	59 1	7 24.3	3	12	13 32	7 16.4
3	10½	59 1	7 18.0	3	11½	13 57	7 14.7
3	12	59 2	7 25.2	3	10	14 5	7 15.4
3	11½	59 22	7 25.9	3	10	14 9	7 15.4
3	9½	9 59 52	7 28.5	3	11½	15 10	7 15.2
3	9	10 0 4	7 28.3	3	11	15 57	7 26.1
3	8½	0 7	7 31.4	3	10	16 39	7 30.7
3	8	0 55	7 27.1	3	11½	17 46	7 14.8
3	10½	1 31	7 18.4	21	10½	27 20	5 22.1
3	12	2 30	7 21.6	21	10½	28 42	5 19.4
3	10½	2 37	7 29.8	15	9	29 11	4 5.9
3	9½	2 43	7 16.1	15	10½	29 35	4 11.0
3	10	2 44	7 12.4	15	12	29 37	4 5.2
3	9½	3 14	7 15.5	15	11½	29 52	4 5.1
3	9½	3 37	7 15.1	15	10	30 1	4 7.5
3	12	3 54	7 29.3	15	9½	30 28	4 11.6
3	11	5 47	7 17.0	15	11½	31 30	4 1.4
3	12	5 48	7 31.4	15	9½	32 43	4 10.1
3	9½	6 46	7 21.5	15	11½	33 32	4 1.7*
3	10	7 15	7 28.4	15	9	34 2	4 8.8
3	11½	10 8 29	+ 7 15.6	21	11	10 34 20	+ 5 16.9

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	11	10 34 52	+ 3 56.9	15	11	10 51 1	+ 3 51.0
15	11½	35 28	4 12.2	15	11½	51 13	3 55.7
21	11½	35 38	5 22.3	21	11½	51 18	5 26.7
15	11½	35 42	4 1.9	15	12	52 35	3 56.8
15	11½	35 50	4 6.2	15	10½	53 42	4 15.4
15	9	36 13	4 1.7	19	10	54 14	3 33.4
21	11½	36 53	5 12.8	15	12	54 55	4 0.8
21	11	38 6	5 13.0	19	12	55 0	3 46.9
15	11½	38 29	4 7.3	19	11½	55 2	3 50.5
21	11	38 37	5 11.3	17 19	11	55 35	3 44.7
15	9	38 43	4 5.5*	15	10	55 50	4 12.4
15	11½	38 50	3 58.2	19	10	56 15	3 46.3
15	10½	38 51	3 56.1	21	11½	56 16	5 17.8
15	11	40 3	3 55.1	19	11	56 44	3 46.6
15	9	40 41	4 12.4	15	12	56 54	4 1.0
15	11	40 51	4 9.0	17 19	10	57 16	3 38.4
21	11	41 7	5 22.3	17 19	11	57 24	3 44.5
15	11	41 13	3 55.8	15	11	57 47	4 10.9
15	11	41 22	4 0.4	21	12	57 50	5 13.9
15	11	42 11	4 11.3	21	10	57 56	5 24.8
15	11	42 34	4 10.0	15	11½	57 59	4 8.8
21	11	42 34	5 12.0	17 19	9	58 8	3 51.8
15	11½	42 36	4 7.5	17 19	10	58 14	3 36.4
15	11	43 23	4 15.0	17	10½	58 29	3 50.1
15	11	43 47	4 14.6	25	11	58 34	1 33.1
15	9½	43 49	4 11.1	25	11	58 36	1 35.0
15	10½	44 38	4 8.1	25	11	58 51	1 37.0
15	11½	46 5	4 4.1*	21	10	58 59	5 13.2
15	10½	46 8	4 10 5	17	11	10 59 55	3 36.2
21	11	46 15	5 15.7	21	10	11 0 1	5 29.4
21	11	46 52	5 9.5	17 19	11½	0 14	3 49.4
15	10	46 54	4 7.9	21	10½	0 36	5 23.3
15	11	47 29	4 10.4	25	11	0 44	1 40.1
15	11	47 36	4 14.4	17	11	0 56	3 36.2
15	11	10 48 0	+ 3 55.7	19	11	11 0 56	+ 3 50.5

Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′	Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′
19		11	11 0 58	+ 3 43.7*	21		11	11 6 42	+ 5 19.7
21		10½	1 11	5 28.8	15		11½	6 44	3 56.1
19		10	1 39	3 38.9	15		10½	7 1	4 9.4
17	19	10½	1 45	3 44.2*	17	19	10	7 6	3 50.1
15		11½	1 49	3 51.9	17	19	10	7 15	3 46.9
17		11	1 59	3 46.5	25		11½	7 25	1 47.5
17		9½	2 8	3 34.2	17	19	11	7 27	3 36.7
25		10½	2 13	1 32.2	15		10½	7 30	4 8.1
21		11	2 21	5 29.3	15		10	7 51	3 58.2
21		11	2 26	5 22.1	17	19	11½	8 10	3 51.5
25		10½	2 34	1 34.5	15		12	8 16	4 4.0
21		10	2 55	5 28.7	17		11	8 25	3 41 8
19		11½	2 59	3 30.9	17	19	11½	8 27	3 50.0
17		11½	3 12	3 46.1	21		11½	8 35	5 14.2
21		10	3 12	5 17.0	25		11½	9 5	1 35.0
25		11	3 16	1 40.7	15	17	19	10½	9 27	3 53.8
21		11	3 18	5 17.2	15		10	9 52	4 0.2
19		12	3 27	3 35.3	25		10	9 55	1 33.1
21		10	3 28	5 18.2	15		9	10 8	4 13.1
17	19	11	3 38	3 36.4	19		12	10 41	3 37.2
17	19	9	3 50	3 36.1	19		10	10 56	3 38.4
25		11	3 53	1 36.4	19		10	10 57	3 39.1
19		12	4 2	3 50.2	15		12½	11 13	4 8.0
21		11	4 7	5 22.5	25		11½	11 15	1 36.5
17		10	4 28	3 31.8	15		11½	11 26	4 8.0
19		11½	4 41	3 49.5	15		11	11 27	4 7.1
25		10	4 49	1 32.2	25		11	11 32	1 37.5
17	19	11	5 3	3 47.5	17	19	9½	11 59	3 45.4
17	19	11½	5 6	3 47.2	17		11½	12 4	3 40.0
21		11	5 13	5 12.5	17	19	10	12 18	3 33.5
25		9½	5 21	1 49.6	17	19	11½	12 31	3 40.6
17	19	11	5 38	3 39.5	21		11	12 36	5 14.6†
25		9½	5 56	1 42.2*	25		12	12 36	1 43.3
25		11½	6 16	1 39.7	21		9	12 38	5 25.9
21		10½	11 6 31	+ 5 14.1	15		10	11 12 40	+ 3 55.8

* (2). † An 11th N. *f.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
16	10	9 30 34	+18 24.6	3	12	9 34 34	+12 8.8
27	11	30 40	15 40.1*	3	11½	34 37	12 10.5
3	9½	31 9	11 58.2	27	10	34 39	15 47.3
3	10	31 15	11 59.6	21	11½	34 45	16 1.1†
22	9½	31 17	18 5.7	16	11	34 47	18 14.4
22	10	31 24	18 2.7	3	11½	34 51	12 4.8
21	12½	31 30	15 57.7	21	11	34 52	16 8.9
21	12½	31 35	15 53.6	27	10	35 7	15 41.4
21	12	31 36	15 57.9	21 27	10½	35 21	15 51.4
27	9½	31 40	15 33.2	27	11½	35 36	15 51.5
27	11	31 44	15 41.0	16	10½	35 46	18 14.8
27	10	31 50	15 43.1	3	9	35 53	12 5.1‡
3	11½	31 53	11 59.3	3	10	35 54	12 7.6
21	12	31 55	15 53.8	27	9½	35 55	15 35.4
27	10	32 0	15 32.6	3	11½	35 59	11 55.6
16	10	32 4	18 23.7†	3	9½	36 7	11 56.5
22	10½	32 8	18 8.1	3	9½	37 0	11 55.6
22	11	32 10	18 0.4	21	11	37 6	15 51.1
22	10½	32 19	18 5.3	27	10	37 6	15 38.1
27	11	32 20	15 43.6	27	11	37 10	15 32.7
27	11	32 32	15 43.8	3	12	37 11	11 57.1
21	11	32 34	15 55.5	21	9½	37 27	16 1.7†
16	11	32 44	18 25.8	3	9½	37 35	11 58.2
3	10	32 53	11 54.7	21	9½	37 40	15 54.2
21	10	32 58	15 59.2	27	10	37 43	15 37.7§
3	11½	33 3	12 10.9‡	21	10½	38 4	16 3.6
27	11	33 14	15 42.8	21	10½	38 17	16 1.2†
22	10½	33 28	18 11.0	27	11½	39 3	15 46.5
27	11	33 29	15 42.8	27	12	39 4	15 43.5
22	10½	33 35	17 56.9	3	12½	39 5	12 6.0
16	10	33 39	18 17.9	3	12	39 8	12 4.1
21	11½	33 39	15 54.6	27	11½	39 8	15 32.7
22	11	33 47	18 9.2	3	9	39 12	12 7.3
3	12½	34 7	12 9.8	3	9½	39 17	12 4.0
27	11	9 34 9	+15 39.3 :	21	10½	9 39 43	+16 6.1

* (4) f. of double. † (4). ‡ Double. § L. of double.

Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′	Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′
17	19	10½	11 26 48	+ 3 38.6	24		11	11 32 13	— 0 16.4
21		12	26 49	5 19.3	25		11½	32 20	+ 1 46.4
25		11	27 2	1 43.2	25		11½	32 28	1 44.3
17	19	9½	27 27	3 40.6	25		10½	32 47	+ 1 45.6
19		11	27 29	3 51.1	24		12	33 33	— 0 23.5
25		11½	27 30	1 44.6	19		11	33 42	+ 3 44.3
19		11½	27 33	3 45.8	24		10	33 45	— 0 10.7
17		11	27 34	3 34.1	24		12	33 48	— 0 26.7
17	19	10½	27 37	3 34.6	21		11½	34 16	+ 5 31.6
25		11½	27 39	1 46 4	25		10	34 22	+ 1 32.2
25		11½	27 49	1 44.9	24		10½	34 37	— 0 21.7
25		9½	27 55	1 38.6	21		10	34 38	+ 5 30.9
21		11	28 21	5 23.1	21		12	34 40	5 23.0
21		11½	28 24	5 16.7	19		10	34 45	3 37.3
25		10	28 58	+ 1 38.6	21		12	34 56	+ 5 28.9
24		11½	29 4	— 0 21.1	24		9½	34 56	— 0 6.4
19		10½	29 10	+ 3 49.6	19		10	35 5	+ 3 39.4
19		12	29 15	3 51.1	25		10	35 12	+ 1 43.4
25		10½	29 34	+ 1 36.8	24		12	35 29	— 0 24.5
24		11	29 36	— 0 15.8	19		9½	35 34	+ 3 47.3
24		9½	29 37	— 0 14.9	25		9½	35 36	+ 1 35.6*
25		11	29 41	+ 1 32.5	24		11½	35 38	— 0 25.1
24		11½	29 58	— 0 21.7	21		12	35 48	+ 5 16.4
19		12	29 54	+ 3 35.2	24		10½	35 55	— 0 22.5
25		10½	30 7	1 35.4	21		11	36 2	+ 5 13.9
19		10½	30 11	+ 3 34.2	19		11	36 31	+ 3 47.2
24		10	30 17	— 0 12.7	24		12	36 37	— 0 13.2
21		10½	30 27	+ 5 8.9	25		10	36 41	+ 1 34.9
24		10½	30 33	— 0 19.3	24		11½	37 0	— 0 21.9
19		10	30 39	+ 3 34.4	24		11	37 4	— 0 12.5
25		11½	30 41	1 32.8	25		11	37 5	+ 1 47.6
25		11½	30 50	+ 1 35.3	19		8	37 17	3 54.1
24		11½	31 22	— 0 21.2	19		10	37 29	+ 3 40.0
24		11½	31 57	— 0 31.2	24		10	37 36	— 0 11.4
19		11	11 32 10	+ 3 42.4	25		11½	11 37 42	+ 1 37.1

* Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11½	9 51 10	+12 7.4	27	10	9 56 19	+15 30.6
21	11	51 31	16 6.8	27	11½	56 28	15 38.5
27	9	51 33	15 44.1	21	10½	56 40	15 55.3
3	11	51 35	11 55.2	27	11	56 45	15 31.1
21	11	51 43	16 5.8	3	12	56 56	11 58.6
21	10½	51 53	16 8.2	21	11½	56 58	15 58.1
21	11	51 54	16 5.9	3	11	57 4	11 58.7
27	11½	52 0	15 36.0	3	11½	57 6	11 52.2
3	10½	52 1	11 53.5	27	11	57 58	15 40.3*
27	10½	52 22	15 38.1	27	11	58 0	15 48.7
3	11	52 31	11 54.5	27	11½	58 7	15 51.4
3	12	52 50	12 9.1	27	11	58 9	15 43.3*
21	12	52 54	16 9.1	21	10½	58 12	16 11.6
27	11½	52 54	15 35.8	21	10½	58 41	16 11.6
3	10½	53 31	11 51.5	21	10	58 43	16 9.8
27	11½	53 47	15 41.0	27	11	59 23	15 36.6
27	10	53 48	15 48.4	27	10½	59 28	15 30.3
27	11½	54 1	15 41.5	27	11½	59 31	15 43.1
27	9½	54 1	15 41.4	27	11½	59 33	15 35.8
27	9½	54 9	15 48.9	21	12	59 34	16 7.9
27	10½	54 15	15 41.4	21	11	59 35	16 10.8
27	11	54 21	15 48.9	27	11½	59 42	15 43.5
3	10½	54 24	11 58.0	27	12	9 59 52	15 40.5
27	11½	54 41	15 47.2	3	9	10 0 0	11 53.3
3	11	54 45	12 7.2	3	11½	0 1	12 2.2
27	11	55 5	15 41.2	3	12	0 11	12 4.8
21	11½	55 13	16 4.6	3	9½	0 29	11 57.7
21	10½	55 21	15 54.1	21	11½	0 49	16 9.5
21	10	55 23	16 0.2	3	10	0 54	12 6.8
27	10	55 29	15 35.2	21	11½	1 12	16 1.0
3	9	55 33	12 9.0	27	11½	1 18	15 47.5
21	10½	55 34	15 56.6	27	8½	1 39	15 45.5
3	11½	55 40	12 6.0	21	11½	1 45	16 6.6
27	12	55 50	15 37.4	27	9	1 56	15 38.5
3	10	9 55 59	+11 59.0	21	11½	10 2 8	+16 5.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	10	11 46 45	+ 3 48.4	21	9½	11 53 0	+ 5 19.4†
19	10½	47 31	3 49.1	19	10½	53 7	+ 3 34.2
19	11	47 40	3 34.2	24	11	53 9	— 0 25.9
19	10½	47 53	+ 3 43 3	24	10	53 15	— 0 24.0
24	9	47 55	— 0 14.1	25	10	53 19	+ 1 39.0
25	9	48 23	+ 1 48.8	21	11½	53 21	5 12.1
19	11	48 28	3 35.0	21	11½	53 24	5 17.8
25	11½	48 51	1 45.9	25	11	53 25	1 40.4
21	10	48 54	5 13.6	19	10	53 29	3 48.7
19	11	49 3	3 34.7	19	10½	53 31	3 34.9
19	11	49 10	3 49.7	21	12	53 42	+ 5 15.2
25	10½	49 23	+ 1 37.9	24	11	53 45	— 0 16.4
24	11½	49 24	— 0 12.0	24	12½	54 9	— 0 12 8
21	11½	49 25	+ 5 30.2	25	11	54 15	+ 1 36.5
25	11½	49 28	+ 1 43.6	25	11	54 22	+ 1 31.2
24	11½	49 40	— 0 13.8	24	11½	54 53	— 0 25.6
24	11	49 44	0 15.5	19	12	54 58	+ 3 46.4
24	11	49 49	— 0 18.4	25	12	55 13	1 47.1
25	11	50 10	+ 1 42.9	25	12	55 16	1 45.8
21	11½	50 12	+ 5 25.4*	25	11	55 18	+ 1 53.9
24	11½	50 23	— 0 15.3	24	12	55 22	— 0 20.6
21	12	50 26	+ 5 22.4	24	12	55 27	— 0 19.9
25	11	50 34	1 47.3	19	11½	55 29	+ 3 46.1 :
21	10	50 40	5 12 0	19	12	55 30	+ 3 45.3 :
25	9½	50 41	1 49.5	24	12	55 31	— 0 21.7
25	11	50 43	1 43.6	25	10½	55 31	+ 1 33.8
25	10	50 53	1 42.4	24	11½	55 42	— 0 21.2
19	10	51 12	3 33.7	21	12	55 46	+ 5 26.4
19	12½	51 15	3 36.8	24	11½	55 50	— 0 21.6
25	10½	51 25	1 43.2	21	11½	55 57	+ 5 26 4
19	12	51 26	3 33.8	25	9½	56 21	1 51.1
19	12	52 28	3 48.4	25	9½	56 38	1 50.8
19	12	52 32	+ 3 46 3	25	11	56 40	1 42.8
24	11	52 40	— 0 14.5	19	9	56 44	+ 3 44.3
24	Neb.	11 52 42	— 0 15.8	24	11½	11 56 47	— 0 27.9‡

* Double. † (4). ‡ A 9th *f*.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′
3	11	10 47 47	+11 57.7
3	11	48 39	12 13.7
3	11	48 56	12 9.4
3	10½	49 25	12 3.5
3	9	50 5	12 9.4
3	9	50 8	12 4.5
3	9	50 54	11 54.6
3	11	51 33	12 10.5
3	9½	51 45	12 9 5
3	12½	53 20	12 3.1
3	11	54 37	11 54.8
3	11	54 54	12 8.4
3	11½	55 22	12 6.1
3	10½	55 23	12 12.2
3	11	55 58	12 9.1
3	9	57 12	12 3.5
3	9	57 18	12 9.1
3	11½	57 30	11 59.3
3	11½	57 50	12 8.2
3	9½	58 7	12 6.6
3	10½	58 18	12 10.7
3	10	59 13	11 54.7
3	11	10 59 38	11 58.6
3	11½	11 0 11	11 56.2
3	11	0 40	11 58.8
3	10½	1 48	11 55.3*
3	12½	2 10	11 53.8
3	9½	3 24	11 56.9
3	11	5 11	12 12.9
3	12	6 54	12 0.5
3	11	7 6	12 6.3
3	11	7 23	+12 4.7
3	11	27 7	— 0 47.5
3	10	27 58	0 45.0
3	11½	11 31 1	— 0 51.2
3	11½	11 31 16	— 0 43.6
3	12	32 10	0 31.0
3	11	32 36	0 32.1
3	10	33 4	0 41.6
3	11½	33 25	0 43.0
3	11	33 29	0 33.6
3	10	34 30	0 38.6
3	11	34 34	0 45.4
3	11½	34 53	0 42.8
3	11½	35 2	0 42.5
3	10½	37 14	0 34.2
3	11	38 45	0 32.7
3	10½	40 7	0 35.7
3	11½	40 7	0 42.7
3	11½	40 89	0 43.7
3	10½	41 37	0 32.2
3	11	43 25	0 36.2
3	11	45 27	0 34.3
3	12	47 22	0 32.7
3	11	48 27	0 34.7
3	11	48 44	0 42.6
3	11½	50 2	0 46.5
3	11	50 14	0 44.2
3	11½	51 3	0 37.3
3	10	51 9	0 29.6
3	8	53 23	0 45.2
3	9	54 51	0 44.3
3	8	55 10	0 35.9
3	11	55 22	0 48.2
3	10½	11 56 31	0 42.2
3	8	12 0 22	0 46.0
3	11	1 12	0 45.3
3	11	1 23	0 32 0
3	9½	5 24	0 41.7
3	10	12 5 44	— 0 36.8

* L. of double.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

1,544 STARS NEAR THE ECLIPTIC,

OBSERVED IN APRIL, 1854, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	11	9 54 29	+ 7 28.3	3	11½	10 8 43	+ 7 20.7
3	10	54 40	7 21.8*	3	9½	9 21	7 20.8
3	10½	54 45	7 29.1	3	9½	9 26	7 18.6†
3	12	54 56	7 29.5	3	9	9 48	7 27.9
3	11½	55 17	7 26.2	3	10	9 59	7 14.4
3	10½	55 41	7 15.5	3	8½	10 17	7 22.7*
3	10½	55 55	7 19.0	3	10	10 59	7 22.9
3	12	57 11	7 25.7	3	11	12 40	7 30.6
3	12	57 12	7 32.5	3	11	13 13	7 16.8
3	11	59 1	7 24.3	3	12	13 32	7 16.4
3	10½	59 1	7 18.0	3	11½	13 57	7 14.7
3	12	59 2	7 25.2	3	10	14 5	7 15.4
3	11½	59 22	7 25.9	3	10	14 9	7 15.4
3	9½	9 59 52	7 28.5	3	11½	15 10	7 15.2
3	9	10 0 4	7 28.3	3	11	15 57	7 26.1
3	8½	0 7	7 31.4	3	10	16 39	7 30.7
3	8	0 55	7 27.1	3	11½	17 46	7 14.8
3	10½	1 31	7 18.4	21	10½	27 20	5 22.1
3	12	2 30	7 21.6	21	10½	28 42	5 19.4
3	10½	2 37	7 29.8	15	9	29 11	4 5.9
3	9½	2 43	7 16.1	15	10½	29 35	4 11.0
3	10	2 44	7 12.4	15	12	29 37	4 5.2
3	9½	3 14	7 15.5	15	11½	29 52	4 5.1
3	9½	3 37	7 15.1	15	10	30 1	4 7.5
3	12	3 54	7 29.3	15	9½	30 28	4 11.6
3	11	5 47	7 17.0	15	11½	31 30	4 1.4
3	12	5 48	7 31.4	15	9½	32 43	4 10.1
3	9½	6 46	7 21.5	15	11½	33 32	4 1.7*
3	10	7 15	7 28.4	15	9	34 2	4 8.8
3	11½	10 8 29	+ 7 15.6	21	11	10 34 20	+ 5 16.9

* (4). † L. of double.

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
15		11	10 34 52	+ 3 56.9	15		11	10 51 1	+ 3 51.0
15		11½	35 28	4 12.2	15		11½	51 13	3 55.7
21		11½	35 38	5 22.3	21		11½	51 18	5 26.7
15		11½	35 42	4 1.9	15		12	52 35	3 56.8
15		11½	35 50	4 6.2	15		10½	53 42	4 15.4
15		9	36 13	4 1.7	19		10	54 14	3 33.4
21		11½	36 53	5 12.8	15		12	54 55	4 0.8
21		11	38 6	5 13.0	19		12	55 0	3 46.9
15		11½	38 29	4 7.3	19		11½	55 2	3 50.5
21		11	38 37	5 11.3	17	19	11	55 35	3 44.7
15		9	38 43	4 5.5*	15		10	55 50	4 12.4
15		11½	38 50	3 58.2	19		10	56 15	3 46.3
15		10½	38 51	3 56.1	21		11½	56 16	5 17.8
15		11	40 3	3 55.1	19		11	56 44	3 46.6
15		9	40 41	4 12.4	15		12	56 54	4 1.0
15		11	40 51	4 9.0	17	19	10	57 16	3 38.4
21		11	41 7	5 22.3	17	19	11	57 24	3 44.5
15		11	41 13	3 55.8	15		11	57 47	4 10.9
15		11	41 22	4 0.4	21		12	57 50	5 13.9
15		11	42 11	4 11.3	21		10	57 56	5 24.8
15		11	42 34	4 10.0	15		11½	57 59	4 8.8
21		11	42 34	5 12.0	17	19	9	58 8	3 51.8
15		11½	42 36	4 7.5	17	19	10	58 14	3 36.4
15		11	43 23	4 15.0	17		10½	58 29	3 50.1
15		11	43 47	4 14.6	25		11	58 34	1 33.1
15		9½	43 49	4 11.1	25		11	58 36	1 35.0
15		10½	44 38	4 8.1	25		11	58 51	1 37.0
15		11½	46 5	4 4.1*	21		10	58 59	5 13.2
15		10½	46 8	4 10 5	17		11	10 59 55	3 36.2
21		11	46 15	5 15.7	21		10	11 0 1	5 29.4
21		11	46 52	5 9.5	17	19	11½	0 14	3 49.4
15		10	46 54	4 7.9	21		10½	0 36	5 23.3
15		11	47 29	4 10.4	25		11	0 44	1 40.1
15		11	47 36	4 14.4	17		11	0 56	3 36.2
15		11	10 48 0	+ 3 55.7	19		11	11 0 56	+ 3 50.5

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
19		11	11 0 58	+ 3 43.7*	21		11	11 6 42	+ 5 19.7
21		10½	1 11	5 28.8	15		11½	6 44	3 56.1
19		10	1 31	3 38.9	15		10½	7 1	4 9.4
17	19	10½	1 45	3 44.2*	17	19	10	7 6	3 50.1
15		11½	1 49	3 51.9	17	19	10	7 15	3 46.9
17		11	1 59	3 46.5	25		11½	7 25	1 47.5
17		9½	2 8	3 34.2	17	19	11	7 27	3 36.7
25		10½	2 13	1 32.2	15		10½	7 30	4 8.1
21		11	2 21	5 29.3	15		10	7 51	3 58.2
21		11	2 26	5 22.1	17	19	11½	8 10	3 51.5
25		10½	2 34	1 34.5	15		12	8 15	4 4.0
21		10	2 55	5 28.7	17		11	8 25	3 41 8
19		11½	2 59	3 30.9	17	19	11½	8 27	3 50.0
17		11½	3 12	3 46.1	21		11½	8 35	5 14.2
21		10	3 12	5 17.0	25		11½	9 5	1 35.0
25		11	3 16	1 40.7	15	17	19	10½	9 27	3 53.8
21		11	3 18	5 17.2	15		10	9 52	4 0.2
19		12	3 27	3 35.3	25		10	9 55	1 33.3
21		10	3 28	5 18.2	15		9	10 8	4 13.1
17	19	11	3 38	3 36.4	19		12	10 41	3 37.2
17	19	9	3 50	3 36.1	19		10	10 56	3 38.4
25		11	3 53	1 36.4	19		10	10 57	3 39.1
19		12	4 2	3 50.2	15		12½	11 13	4 8.0
21		11	4 7	5 22.5	25		11½	11 15	1 36.5
17		10	4 28	3 31.8	15		11½	11 26	4 8.0
19		11½	4 41	3 49.5	15		11	11 27	4 7.1
25		10	4 49	1 32.2	25		11	11 32	1 37.5
17	19	11	5 3	3 47.5	17	19	9½	11 59	3 45.4
17	19	11½	5 6	3 47.2	17		11½	12 4	3 40.0
21		11	5 13	5 12.5	17	19	10	12 18	3 33.5
25		9½	5 21	1 49.6	17	19	11½	12 31	3 40.6
17	19	11	5 38	3 39.5	21		11	12 36	5 14.6‡
25		9½	5 56	1 42.2*	25		12	12 36	1 43.3
25		11½	6 16	1 39.7	21		9	12 38	5 25.9
21		10½	11 6 31	+ 5 14.1	15		10	11 12 40	+ 3 55.8

* (*). † An 11th N. *f.*

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
19		11½	11 12 51	+ 3 43.7	25		11	11 18 18	+ 1 53.6
25		10½	12 55	1 43.9	15		11½	18 25	4 0.9
25		11	13 5	1 38.5	25		11	19 8	1 46.6
17	19	10½	13 11	3 41.6	21		11½	19 29	5 26.8
15		11	13 17	3 58.9	15		11	19 43	4 11.9
15		Neb.	13 23:	4 3.3:	25		10	19 59	1 51.2
19		11	13 28	3 44.0	21		10½	20 11	5 27.3
15		10	13 46	3 56.2	19		11½	20 15	3 33.5
17		7	13 47	3 34.3	21		10½	20 32	5 15.2
25		11	14 22	1 37.2	15		11	20 46	4 2.0
25		10½	14 31	1 44.5	25		11½	21 1	1 34.2
21		11	15 2	5 11.7	25		11	21 10	1 40.0
21		11½	15 9	5 23.9:	25		10½	21 14	1 36.3
17	19	10½	15 10	3 39.0	25		9	21 34	1 33.4
21		11	15 12	5 14.3	17	19	10½	21 45	3 38.1
25		9	15 13	1 45.1	21		10	22 4	5 13.7
17	19	11	15 21	3 48.1	25		10	22 10	1 38.1
17	19	10½	15 24	3 40.1	21		12	22 12	5 14.9
15		11½	15 32	3 54.2	21		12	22 12	5 13.6
15		11	15 52	3 56.8	17	19	10½	22 22	3 45.5
25		11½	15 59	1 46.6	19		11½	22 22	3 51.9
21		11½	16 23	5 12.6	17	19	10½	22 34	3 40.6
15		11	16 24	4 5.0	25		11	22 48	1 43.8
25		10	16 35	1 44.9	21		11½	22 50	5 13.6
25		11½	16 38	1 37.1	25		11	22 51	1 42.6*
15		11½	16 48	4 6.8	25		10	24 16	1 28.8
15		10	16 53	4 6.1	21		11	24 44	5 22.6
17		10½	16 55	3 46.7	25		11½	25 7	1 34.5
17	19	9	16 58	3 43.3*	17	19	11½	25 11	3 38.8
17	19	10½	17 10	3 39.0	19		12½	25 11	3 30.5
19		11½	17 10	3 43.6	17	19	11	25 12	3 37.9
19		10	17 18	3 43.3*	25		11	25 12	1 45.1
19		11	17 26	3 47.3	25		11½	25 33	1 38.2
21		12	17 52	5 23.5	21		11	25 45	5 13.0
17		11½	11 18 1	+ 3 34.2	19		11½	11 25 49	+ 3 47.9

* (4).

Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′ ″	Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′ ″
17	19	10½	11 26 48	+ 3 38.6	24		11	11 32 13	— 0 16.4
21		12	26 49	5 19.3	25		11½	32 20	+ 1 46.4
25		11	27 2	1 43.2	25		11½	32 28	1 44.3
17	19	9½	27 27	3 40.6	25		10½	32 47	+ 1 45.6
19		11	27 29	3 51.1	24		12	33 33	— 0 23.5
25		11½	27 30	1 44.6	19		11	33 42	+ 3 44.3
19		11½	27 33	3 45.8	24		10	33 45	— 0 10.7
17		11	27 34	3 34.1	24		12	33 48	— 0 26.7
17	19	10½	27 37	3 34.6	21		11½	34 16	+ 5 31.6
25		11½	27 39	1 46 4	25		10	34 22	+ 1 32.2
25		11½	27 49	1 44.9	24		10½	34 37	— 0 21.7
25		9½	27 55	1 38.6	21		10	34 38	+ 5 30.9
21		11	28 21	5 23.1	21		12	34 40	5 23.0
21		11½	28 24	5 16.7	19		10	34 45	3 37.3
25		10	28 58	+ 1 38.6	21		12	34 56	+ 5 28.9
24		11½	29 4	— 0 21.1	24		9½	34 56	— 0 6.4
19		10½	29 10	+ 3 49.6	19		10	35 5	+ 3 39.4
19		12	29 15	3 51.1	25		10	35 12	+ 1 43.4
25		10½	29 34	+ 1 36.8	24		12	35 29	— 0 24.5
24		11	29 36	— 0 15.8	19		9½	35 34	+ 3 47.3
24		9½	29 37	— 0 14.9	25		9½	35 36	+ 1 35.6*
25		11	29 41	+ 1 32.5	24		11½	35 38	— 0 25.1
24		11½	29 58	— 0 21.7	21		12	35 48	+ 5 16.4
19		12	29 54	+ 3 35.2	24		10½	35 55	— 0 22.5
25		10½	30 7	1 35.4	21		11	36 2	+ 5 13.9
19		10½	30 11	+ 3 34.2	19		11	36 31	+ 3 47.2
24		10	30 17	— 0 12.7	24		12	36 37	— 0 13.2
21		10½	30 27	+ 5 8.9	25		10	36 41	+ 1 34.9
24		10½	30 33	— 0 19.3	24		11½	37 0	— 0 21.9
19		10	30 39	+ 3 34.4	24		11	37 4	— 0 12.5
25		11½	30 41	1 32.8	25		11	37 5	+ 1 47.6
25		11½	30 50	+ 1 35.3	19		8	37 17	3 54.1
24		11½	31 22	— 0 21.2	19		10	37 29	+ 3 40.0
24		11½	31 57	— 0 31.2	24		10	37 36	— 0 11.4
19		11	11 32 10	+ 3 42.4	25		11½	11 37 42	+ 1 37.1

* Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
21	11	11 37 43	+ 5 26.1	19	10½	11 41 52	+ 3 38.4
21	11	37 59	5 24.1	19	10	41 58	3 34.9
25	11	38 3	+ 1 35.4	19	10½	42 6	3 39.5
24	12	38 27	— 0 8.7	25	12	42 9	+ 1 49.0
24	11½	38 31	0 15.0	24	12	42 13	— 0 14.6
24	11	38 31	— 0 19.7	21	10½	42 14	+ 5 21.9
19	10	38 37	+ 3 42.4	21	11½	42 32	+ 5 14.9
24	12	38 39	— 0 13.1	24	9	42 44	— 0 25.2:
24	11	38 39	— 0 25.0	24	10½	43 3	— 0 24.7
25	11	38 39	+ 1 42.7	19	12½	43 4	+ 3 50.1
25	11½	38 51	1 47.7	19	10	43 11	3 34.5
25	11	38 53	1 32.2	19	12	43 15	3 45.8
19	12½	39 9	3 45.9	25	10½	43 49	1 37.8
21	12	39 25	+ 5 24.1	19	11½	44 3	+ 3 48.0‡
24	10	39 26	— 0 25.8	24	12½	44 31	— 0 10.7
24	11	39 38	— 0 11.8	25	9	44 38	+ 1 42.8§
19	9½	39 46	+ 3 44.4	19	12½	44 54	3 47.6
19	10	39 58	3 45.8	19	12½	44 59	3 49.4
19	10	40 5	3 34.8	21	11	45 4	5 23.9
19	10	40 12	3 49.1	21	12	45 4	5 17.8
25	10½	40 13	+ 1 45.9	21	12	45 11	+ 5 14.2
24	11½	40 27	— 0 11.1	24	12	45 14	— 0 19.8
25	11½	40 29	+ 1 44.4	24	9	45 16	— 0 26.4
24	10	40 30	— 0 15.8	21	12	45 25	+ 5 14.9
21	11	40 32	+ 5 15.5	19	11½	45 34	+ 3 33.6
24	12	40 47	— 0 12.6	24	11	45 46	— 0 21.2
24	12	40 48	— 0 10.8	19	12	45 48	+ 3 34.6
25	10½	40 52	+ 1 35.6*	24	11	45 54	— 0 23.2
19	11	40 53	+ 3 51.8	24	11½	46 2	— 0 23.2
24	12	41 9	— 0 12.5†	21	11	46 10	+ 5 12.2
21	11	41 14	+ 5 19.8	25	11½	46 21	1 43.6§
24	11½	41 19	— 0 12.8	25	11	46 28	1 44.3
21	11½	41 25	+ 5 12.1	19	11	46 33	+ 3 38.4
24	11½	41 38	— 0 19.5	24	11½	46 35	— 0 18.6
19	12	11 41 47	+ 3 45.2	19	11	11 46 44	+ 3 46.3

* S. *p.* of double. † Double. ‡ L of double. § (4).

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
19	10	11 46 45	+ 3 48.4
19	10½	47 31	3 49.1
19	11	47 40	3 34.2
19	10½	47 53	+ 3 43 3
24	9	47 55	— 0 14.1
25	9	48 23	+ 1 48.8
19	11	48 28	3 35.0
25	11½	48 51	1 45.9
21	10	48 54	5 13.6
19	11	49 3	3 34.7
19	11	49 10	3 49.7
25	10½	49 23	+ 1 37.9
24	11½	49 24	— 0 12.0
21	11½	49 25	+ 5 30.2
25	11½	49 28	+ 1 43.6
24	11½	49 40	— 0 13.8
24	11	49 44	0 15.5
24	11	49 49	— 0 18.4
25	11	50 10	+ 1 42.9
21	11½	50 12	+ 5 25.4*
24	11½	50 23	— 0 15.3
21	12	50 26	+ 5 22.4
25	11	50 34	1 47.3
21	10	50 40	5 12 0
25	9½	50 41	1 49.5
25	11	50 43	1 43.6
25	10	50 53	1 42.4
19	10	51 12	3 33.7
19	12½	51 15	3 36.8
25	10½	51 25	1 43.2
19	12	51 26	3 33.8
19	12	52 28	3 48.4
19	12	52 32	+ 3 46 3
24	11	52 40	— 0 14.5
24	Neb.	11 52 42	— 0 15.8
21	9½	11 53 0	+ 5 19.4†
19	10½	53 7	+ 3 34.2
24	11	53 9	— 0 25.9
24	10	53 15	— 0 24.0
25	10	53 19	+ 1 39.0
21	11½	53 21	5 12.1
21	11½	53 24	5 17.8
25	11	53 25	1 40.4
19	10	53 29	3 48.7
19	10½	53 31	3 34.9
21	12	53 42	+ 5 15.2
24	11	53 45	— 0 16.4
24	12½	54 9	— 0 12 8
25	11	54 15	+ 1 36.5
25	11	54 22	+ 1 31.2
24	11½	54 53	— 0 25.6
19	12	54 58	+ 3 46.4
25	12	55 13	1 47.1
25	12	55 16	1 45.8
25	11	55 18	+ 1 53.9
24	12	55 22	— 0 20.6
24	12	55 27	— 0 19.9
19	11½	55 29	+ 3 46.1 :
19	12	55 30	+ 3 45.3 :
24	12	55 31	— 0 21.7
25	10½	55 31	+ 1 33.8
24	11½	55 42	— 0 21.2
21	12	55 46	+ 5 26.4
24	11½	55 50	— 0 21.6
21	11½	55 57	+ 5 26.4
25	9½	56 21	1 51.1
25	9½	56 38	1 50.8
25	11	56 40	1 42.8
19	9	56 44	+ 3 44.3
24	11½	11 56 47	— 0 27.9‡

* Double. † (4). ‡ A 9th *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
21	11	11 56 52	+ 5 18.0	19	10	12 2 23	+ 3 42.4
25	8½	56 59	1 35.7	24	11½	2 47	— 0 23.4
21	11	57 11	5 22.5	21	12	2 55	+ 5 27.9
21	12	57 21	+ 5 20.0	24	12	3 1	— 0 16.4
24	10	57 40	— 0 25.3	25	10	3 8	+ 1 29.5
25	9½	57 48	+ 1 44.3	25	10½	3 45	1 44.0
19	11½	57 55	3 35.2	21	10½	4 1	5 28.4
19	11½	57 58	3 32.8	25	11½	4 8	1 35.7
25	11	58 3	1 35.2	21	10½	4 11	+ 5 24.8
21	12	58 17	5 29.8	24	9	4 20	— 0 15.8
25	11	58 20	+ 1 35.2	25	11	4 22	+ 1 44.5
24	11	58 29	— 0 29.1	25	11	4 24	+ 1 34.7
24	12½	58 33	— 0 21.8	24	9½	4 37	— 0 21.3
25	12	59 10	+ 1 35.2	25	12	4 50	+ 1 37.4
21	9	59 16	5 19.8*	24	11½	4 54	— 0 11.8
25	11	59 16	1 37.4	25	12	5 28	+ 1 36.9
21	10½	59 22	+ 5 25.0	24	10½	5 42	— 0 11.4
24	10	59 25	— 0 12.2	25	9	6 13	+ 1 40.1:*
25	11½	59 30	+ 1 34.2	24	9	6 34	— 0 20.2
25	9	59 33	1 44.1	24	11½	6 39	0 22.2
19	11½	59 36	3 55.3	24	12	7 2	— 0 23.5‡
19	11	11 59 51	3 54.0	25	11	7 11	+ 1 43.3
19	Neb.	12 0 30	+ 3 43.1†	24	9	7 42	— 0 15.5
24	11½	0 32	— 0 15.7	24	11	7 53	— 0 11.0
24	10½	0 35	— 0 15.0	24	11½	8 35	+ 0 13.0
21	9½	0 51	+ 5 12.9	25	10	9 36	+ 1 39.4
25	10½	1 4	1 46.0	24	10	9 40	— 0 28.4
25	12	1 12	1 43.1	25	10½	9 41	+ 1 44.4
25	12	1 14	1 47.0	25	11½	9 52	1 46.0
25	10½	1 29	+ 1 43.4	25	10½	9 55	+ 1 47.9
24	12½	1 46	— 0 10.4	24	9½	10 28	— 0 20.3
25	9½	1 50	+ 1 38.2	24	12½	10 41	0 20.3
24	8½	2 7	— 0 10.1	24	11½	10 42	— 0 23.2
19	11½	2 14	+ 3 44.1	25	12½	10 55	+ 1 46.2:
24	11½	12 2 15	— 0 15.8*	24	11½	12 11 11	— 0 12.8

* (4). † Very faint. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
25	9	12 11 28	+ 1 39.4	24	11½	12 19 47	— 0 19.3
25	9½	11 28	1 44.9	24	11	19 50	0 23.1
25	11½	11 35	+ 1 47.5	24	11½	19 52	0 20.1
24	12	11 54	— 0 13.8	24	11	20 19	0 16.0†
25	10½	11 56	+ 1 48.2	24	10½	21 35	0 26.9
24	11½	12 7	— 0 8.8	24	10½	21 47	— 0 22.3
24	10	13 0	0 17.5	25	10	23 4	+ 1 39.4
24	11½	13 7	— 0 21.9	25	9	23 10	1 41.1
25	10	13 10	+ 1 45.6	25	11½	23 18	1 45.4
24	11	13 13	— 0 22.2	25	11½	23 23	1 50.4
25	11½	13 19	+ 1 37.0	25	11½	23 29	+ 1 44.4
25	11½	14 11	1 47.0	24	9½	24 0	— 0 26.9
25	11½	14 16	+ 1 34.3	24	11½	24 21	0 19.0
24	11	14 24	— 0 25.8	24	11	24 28	0 26.1
24	11	14 29	— 0 25.8	24	10½	24 53	— 0 25.2
25	11	15 8	+ 1 47.8	25	11½	25 2	+ 1 44.2
24	9	15 24	— 0 6.3	24	10	25 9	— 0 21.3
25	10½	15 25	+ 1 39.2	25	10	25 27	7 21.7
25	11	15 29	+ 1 35.1	25	11	25 36	7 21.8
24	10½	15 47	— 0 10.4	25	12	25 45	— 7 22.8
24	10½	15 52	0 27.0	25	10½	25 47	+ 1 42.7
24	9	16 29	— 0 24.8	24	10	25 54	— 0 19.7
25	9	16 38	+ 1 33.7	19	11½	26 3	8 25.2
25	10½	17 8	1 39.9	25	11½	26 4	7 20.9
25	11½	17 10	+ 1 46.9	25	11	26 8	7 19.1
24	11	17 21	— 0 24.3	24	10	26 15	7 39.0
24	10	18 13	0 16.6*	24	10½	26 20	— 0 20.6
24	10	18 16	— 0 26.7	25	10	26 24	+ 1 49.9
25	11	18 23	+ 1 37.5	24	11	26 34	— 0 24.2
24	10½	18 32	— 0 25.3	25	11	26 37	7 10.3
25	11	18 50	+ 1 39.1	24	11	26 39	0 21.1
25	10	18 50	1 48.5	19	10½	26 49	8 14.1*
25	11	18 54	+ 1 34.3	24	10½	26 50	0 24.7
24	10	19 4	— 0 15.2	24	11	26 56	0 18.5
25	11	12 19 41	+ 1 48.0	25	9	12 26 57	— 7 13.6

* (4). † Qu. 19 m.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
25	12½	12 27 9	+ 1 48.8
25	10½	27 9	− 7 24.7
25	11½	27 14	+ 1 45.7
25	11½	27 22	+ 1 47.6
19	11	27 31	— 8 21.4
19	11	27 32	8 21.7
25	10	27 33	7 23.6
21	10½	27 41	8 1.4
21	10½	27 47	7 56.8
19	11	27 55	8 17.9
24	11	27 59	0 10.1
25	9½	28 10	— 7 20.1
25	11	28 13	+ 1 46.1
24	11½	28 16	— 0 24.7
21	11½	28 20	8 0.8*
18	12	28 22	8 48.8
21	10	28 22	8 0.7
24	11	28 27	0 14.7
24 25	10	28 31	7 28.5
25	11	28 36	7 22.6
24	11½	28 39	— 7 41.7
25	11	28 42	+ 1 40.9
24	11	28 52	— 7 45.5
24	11½	29 4	7 44.8
25	11	29 17	7 15.3
19	11½	29 23	— 8 8.0
25	9	29 24	+ 1 39.2
19	11½	29 28	— 8 11.2
18	11	29 29	8 52.0
25	12½	29 33	7 11.7
24	10½	29 38	7 46.4
24	10	29 42	0 19.5
18	10	30 2	9 2.3
21	10	30 14	7 47.9
24	9½	12 30 17	— 0 16.0*
24 25	9	12 30 23	— 7 26.1
21	11½	30 25	7 51.6
19	11	30 26	— 8 16.6*
25	12	30 34	+ 1 39.0
19	10½	30 38	— 8 24.4
25	9	30 39	+ 1 51.1
18	10½	30 40	— 8 51.0
18	10½	30 41	8 54.2
19	11	30 41	— 8 17.3†
25	11	30 43	+ 1 47.2‡
25	10½	30 46	+ 1 44.0
24	11½	30 52	— 7 30.7
24	10½	30 59	7 33.5
19	11½	31 4	8 17.7
21	9½	31 4	7 56.8
24	10½	31 6	0 14.7
18	10½	31 12	8 58.4
25	10½	31 15	7 19.9
24	10½	31 18	0 20.1
24	10	31 18	7 28.0
21	11	31 20	7 53.7
24	11½	31 20	0 12.6
21	11½	31 21	7 54.9
18	11	31 25	8 59.2
18	10	31 31	9 4.6
25	10	31 38	7 12.2
25	11½	31 42	7 18.0
24	10	31 44	7 28.8
25	10½	31 44	7 11.4
19	10	31 59	8 7.3
24	11	32 12	7 45.1
24	11½	32 20	7 42.6
24	11	32 28	0 18.5
24	10½	32 29	7 47.1
18	11	12 32 35	— 8 48.7

* (4). † (4). Double. ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11	12 32 36	— 8 50.5	21	11½	12 36 3	— 8 2.4
19	11	32 44	8 10.9	24	11	36 7	7 42.4
21	11½	33 4	8 1.1	25	11	36 23	7 25.2
24	11	33 12	7 46.7	18	12	36 28	8 52.9
21	10	33 13	7 56.9	19	11½	36 41	8 21.4
25	12	33 13	7 15.4	18	12	36 44	8 54.8
19	10½	33 18	8 23.5	19	10½	36 47	8 25.5
19	8	33 23	8 25.3	18	11	37 0	8 54.5
18	8	33 24	8 59.9	21	11½	37 16	8 6.0
25	11	33 32	7 17.9	24	12	37 21	7 30.2
21	11	33 35	7 53.5	21	11½	37 25	7 52.5
25	10	33 35	7 16.2	24	12	37 29	7 29 3
18	10	33 41	9 2.5	25	9	37 35	7 12.7
24	10	33 44	7 44.3	19	10	37 53	8 13.6
19	11	33 45	8 3.9	25	10½	37 53	7 20.7
18	9½	33 50	8 57.9*	25	12½	38 3	7 21.0
19	9	34 3	8 4.6	19	9½	38 8	8 24.0
21	11	34 9	8 7.3	25	11	38 15	7 23.8
24	11½	34 10	7 28.6	24	12	38 23	7 30.6
24	11½	34 14	7 31.2	24	11	38 26	7 33.1
18	9½	34 20	8 55.8*	24	12	38 27	7 35.5
19 21	11½	34 23	8 7.1	24	11½	38 35	7 33.9
25	11½	34 39	7 8.6	25	11½	38 41	7 15.1
25	11½	34 55	7 16.1	18	9½	38 43	9 2.1
24	11	35 16	7 43.6	18	10½	38 44	8 58.8
24	9	35 20	7 47.1	24	10	38 47	7 41.4
24	10	35 27	7 40.1	18	11½	38 48	8 54.3†
21	11½	35 29	8 1.9	19	11½	38 53	8 8.4
19	10	35 34	8 17.1*	18	11	39 1	8 50.2
21	10½	35 51	7 52.3	25	11½	39 16	7 11.4
21	9	35 52	8 0.8	21	11	39 19	7 53.7
24	10	35 59	7 39.9	25	12	39 26	7 13.8
21	9½	36 0	7 51.2	21	11½	39 44	8 6.4
19	10	36 2	8 14.5	21	11½	39 50	8 7.4
24	11	12 36 2	— 7 39.3	24	11½	12 40 4	— 7 46.2

* (4). † p. of double.

Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′
24		11½	12 40 11	— 7 45.9
24		11½	40 12	7 40.1
21	24	11	40 20	7 46.8
21		11	40 20	7 48.1
19		11½	40 27	8 22.3
18		11	40 29	8 57.5
18		11	40 41	9 3.1
25		9	40 44	7 13.4
18		9	40 49	8 56.7
25		11½	40 51	7 8.9
25		10	40 54	7 11.1
19		11½	40 55	8 12.9
18		10½	41 10	8 59.8
18		9½	41 14	8 52.4
21		Neb.	41 15	7 50.7*
19		Neb.	41 31	8 17.4†
24		12	41 40	7 32.9
21		10½	41 45	8 0.5‡
25		11½	41 53	7 23.3
24		11	42 1	7 37.7
21		11½	42 19	7 51.7
19		10	42 25	8 12.8
24		11½	42 33	7 40.9
18		11½	42 35	8 58.8
25		10	42 35	7 9.3
18		11	42 40	8 49.9
21		11½	42 40	8 0.4§
25		11½	42 51	7 12.9
24		11	42 56	7 44.6
25		11	42 57	7 22.1
24		12	43 3	7 41.5
24		10	43 5	7 44.3
19		11	43 26	8 25.5
19		9½	43 28	8 23.0
25		10	12 43 41	— 7 9.5
25		11	12 43 50	— 7 12.3
21		9½	43 58	7 54.1
18		11	44 0	8 53.1
24		11	44 8	7 34.6
19		11½	44 15	8 13.3
19		9	44 16	8 10.2
24		11½	44 17	7 42.4
25		12	44 27	7 20.6
19		12	44 28	8 9.9
25		11	44 33	7 21.7
19		12	44 35	8 10.3
24		10½	44 50	7 35.4
25		10	44 56	7 19.8
19		11½	45 4	8 17.0
25		12	45 4	7 18.9
24		10½	45 8	7 28.1
19		10	45 17	8 17.5
25		9½	45 17	7 7.9
21		10½	45 18	8 2.3
21		11	45 23	8 4.1
21		11	45 30	8 3.0:
24		12	45 43	7 28.7
24		11½	45 53	7 28.5
21		8½	45 55	7 55.6
18		10	46 7	8 57.4§
19		10	46 8	8 7.2
18		11½	46 11	8 54.1
25		11½	46 12	7 22.3
25		9	46 25	7 18.6
18		10	46 36	8 59.0
21		10½	46 52	8 8.5
24		12½	46 52	7 42.0
25		10	47 0	7 17.7
24		11½	47 1	7 46.7
24		10	12 47 9	— 7 43.3

* Fine object. † Faint. ‡ (4). Double. § (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	12	12 47 17	— 8 24.5	24	11	12 50 46	— 7 42.1
19	12	47 22	8 24.1	24	11	50 49	7 38.7
24	10	47 25	7 49.0*	19	11½	51 0	8 10.6
25	11½	47 29	7 24.2	19	11	51 12	8 10.6
18	12	47 56	8 52.6	25	10½	51 14	7 4.2
25	9½	48 1	7 22.3	25	10	51 19	7 4.5
19 21	10½	48 2	8 3.8	19	12	51 29	8 11.5
18	12	48 5	8 53.5	18	11	51 37	9 2.2
18	9½	48 6	9 3.4	25	11	51 40	7 11.8
19	10½	48 8	8 17.1	19	10½	51 53	8 6.3
21	12	48 12	8 2.8	18	11½	52 0	9 6.1
25	10½	48 25	7 23.0	25	10½	52 20	7 19.3
19	10½	48 41	8 24.6	18	11	52 25	8 50.7
24	10	48 43	7 42.6	21	9½	52 29	7 51.0
25	10½	48 47	7 22 4	24	11½	52 30	7 43.0
24	Neb.	49 2	7 42.7	18	11	52 44	8 59.8
21	11	49 23	8 6.3	25	9	52 46	7 10.9
18	12	49 29	9 4.4	21	11	52 49	7 57.6†
21	11½	49 35	8 3.1	19	10½	52 50	8 10.7
18	11	49 42	9 3.5	19	11	52 55	8 22.3
25	11½	49 47	7 18.7	25	11	52 56	7 18.7
25	11	49 53	7 24.8	18	10	53 16	8 49.6
18	10½	49 54	9 3.6	21	11	53 32	8 6.0
21	10	49 55	7 54.0	21	11½	53 44	7 58.9
25	11½	49 55	7 21.1	24	11½	53 57	7 41.0
21	10½	50 1	7 50.5	24	10	54 5	7 46.1
19	11	50 11	8 6.7	19	10	54 6	8 19.0
19	11	50 17	8 8.5	21	11½	54 36	8 1.0
21	11	50 17	7 59.5	25	9	54 37	7 17 0
24	11	50 21	7 31.9	25	9½	54 44	7 10.2
19	10	50 25	8 13.0	25	11½	54 49	7 10.0
24	12	50 25	7 34.8	19	9½	54 53	8 12.5
21	11	50 31	7 58.4	19	10½	54 57	8 7.0
21	11	50 38	8 1.9	21	12	54 57	8 5.8
24	11	12 50 45	— 7 41.6	24	11	12 54 59	— 7 45.1

* L. of double. † (4).

Days	Obs.	Mag.	α.	δ.
			h. m. s.	° ′
18		10½	12 55 18	— 8 53.9
25		9	55 18	7 7.3 :
19		10½	55 19	8 9.6
24		10½	55 23	7 49.0
18		10	55 27	8 54.7*
25		11	55 31	7 15.4
24		10	55 34	7 29.6
25		11	55 40	7 8.9
21		11½	56 4	7 52.6
24		11	56 8	7 35.8
19		12	56 12	8 10.0
25		10½	56 14	7 8.8
25		10	56 18	7 15.9
18		11	56 29	8 55.5
19		11	56 36	8 5.5
24		11	56 39	7 40.7 :
21		11	56 44	8 3.6
21		10	56 46	8 0.8
18		11½	56 53	9 3.9
24		10	56 57	7 43.0
25		10	57 3	7 23.5
19	21	10½	57 7	8 6.5
19		12	57 36	8 7.2
24		10½	57 53	7 28.4
25		Neb.	58 0	7 12.8
25		11½	58 4	7 22.8
21		10	58 7	7 55.2
19		11	58 14	8 5.5
18		11½	58 15	8 54.6
18		10	58 15	8 59.1
21		11½	58 16	7 58.6
24		10½	58 16	7 44.2
21		11	58 17	7 52.1
24		9½	58 44	7 40.4
18		11	12 58 47	— 8 54.0

Days	Obs.	Mag.	α.	δ.
			h. m. s.	° ′
18		11	12 58 57	— 8 54.9
21		11	59 3	8 0.4
18		11	59 5	9 0.3
18		11½	59 24	8 51.7
25		12½	59 24	7 10.4
19		11	59 38	8 9.7
24		11½	59 45	7 43.4
18		11½	59 51	8 51.6
19		11½	12 59 54	8 9.0
24		11½	13 0 5	7 39.1
19		11	0 49	8 22.0
21		11	0 50	7 55.2
25		11½	0 56	7 20.5
19	21	11	1 6	8 11.2
19		11	1 15	8 18.1
19		11½	1 16	8 16.6
18		10½	1 41	8 55.3*
21		11	2 10	8 0.6
25		11½	2 14	7 19.4
24		11½	2 15	7 45.2
21		11	2 17	8 8.6
25		10	2 20	7 26.6
18		10	2 38	8 54.9*
24		12½	2 42	7 44.2
25		10	2 46	7 17.7*
19		12	2 46	8 8.3
18		11½	2 58	8 48.7
19		11½	3 7	8 11.0
19		9	3 9	8 7.4
19		10	3 18	8 8.4
24		10	3 28	7 36.6
25		9	3 31	7 19.4
25		11½	3 39	7 17.0†
24		10½	3 47	7 29.1
24		10	13 3 48	— 7 32.0

* (4). † Qu. 29 *s.*

Days.	Obs.	Mag.	α. h. m. s.	δ. ° ′ ″
17	19	10½	11 26 48	+ 3 38.6
21		12	26 49	5 19.3
25		11	27 2	1 43.2
17	19	9½	27 27	3 40.6
19		11	27 29	3 51.1
25		11½	27 30	1 44.6
19		11½	27 33	3 45.8
17		11	27 34	3 34.1
17	19	10½	27 37	3 34.6
25		11½	27 39	1 46 4
25		11½	27 49	1 44.9
25		9½	27 55	1 38.6
21		11	28 21	5 23.1
21		11½	28 24	5 16.7
25		10	28 58	+ 1 38.6
24		11½	29 4	— 0 21.1
19		10½	29 10	+ 3 49.6
19		12	29 15	3 51.1
25		10½	29 34	+ 1 36.8
24		11	29 36	— 0 15.8
24		9½	29 37	— 0 14.9
25		11	29 41	+ 1 32.5
24		11½	29 58	— 0 21.7
19		12	29 54	+ 3 35.2
25		10½	30 7	1 35.4
19		10½	30 11	+ 3 34.2
24		10	30 17	— 0 12.7
21		10½	30 27	+ 5 8.9
24		10½	30 33	— 0 19.3
19		10	30 39	+ 3 34.4
25		11½	30 41	1 32.8
25		11½	30 50	+ 1 35.3
24		11½	31 22	— 0 21.2
24		11½	31 57	— 0 31.2
19		11	11 32 10	+ 3 42.4
24		11	11 32 13	— 0 16.4
25		11½	32 20	+ 1 46.4
25		11½	32 28	1 44.3
25		10½	32 47	+ 1 45.6
24		12	33 33	— 0 23.5
19		11	33 42	+ 3 44.3
24		10	33 45	— 0 10.7
24		12	33 48	— 0 26.7
21		11½	34 16	+ 5 31.6
25		10	34 22	+ 1 32.2
24		10½	34 37	— 0 21.7
21		10	34 38	+ 5 30.9
21		12	34 40	5 23.0
19		10	34 45	3 37.3
21		12	34 56	+ 5 28.9
24		9½	34 56	— 0 6.4
19		10	35 5	+ 3 39.4
25		10	35 12	+ 1 43.4
24		12	35 29	— 0 24.5
19		9½	35 34	+ 3 47.3
25		9½	35 36	+ 1 35.6*
24		11½	35 38	— 0 25.1
21		12	35 48	+ 5 16.4
24		10½	35 55	— 0 22.5
21		11	36 2	+ 5 13.9
19		11	36 31	+ 3 47.2
24		12	36 37	— 0 13.2
25		10	36 41	+ 1 34.9
24		11½	37 0	— 0 21.9
24		11	37 4	— 0 12.5
25		11	37 5	+ 1 47.6
19		8	37 17	3 54.1
19		10	37 29	+ 3 40.0
24		10	37 36	— 0 11.4
25		11½	11 37 42	+ 1 37.1

* Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
21	11	11 37 43	+ 5 26.1	19	10½	11 41 52	+ 3 38.4
21	11	37 59	5 24.1	19	10	41 58	3 34.9
25	11	38 3	+ 1 35.4	19	10½	42 6	3 39.5
24	12	38 27	— 0 8.7	25	12	42 9	+ 1 49.0
24	11½	38 30	0 15.0	24	12	42 13	— 0 14.6
24	11	38 31	— 0 19.7	21	10½	42 14	+ 5 21.9
19	10	38 37	+ 3 42.4	21	11½	42 32	+ 5 14.9
24	12	38 37	— 0 13.1	24	9	42 44	— 0 25.2 :
24	11	38 39	— 0 25.0	24	10½	43 3	— 0 24.7
25	11	38 37	+ 1 42.7	19	12½	43 4	+ 3 50.1
25	11½	38 51	1 47.7	19	10	43 11	3 34.5
25	11	38 53	1 32.2	19	12	43 15	3 45.8
19	12½	39 9	3 45.9	25	10½	43 49	1 37.8
21	12	39 25	+ 5 24.1	19	11½	44 3	+ 3 48.0‡
24	10	39 26	— 0 25.8	24	12½	44 31	— 0 10.7
24	11	39 38	— 0 11.8	25	9	44 38	+ 1 42.8§
19	9½	39 46	+ 3 44.4	19	12½	44 54	3 47.6
19	10	39 58	3 45.8	19	12½	44 59	3 49.4
19	10	40 5	3 34.8	21	11	45 4	5 23.9
19	10	40 12	3 49.1	21	12	45 4	5 17.8
25	10½	40 13	+ 1 45.9	21	12	45 11	+ 5 14.2
24	11½	40 27	— 0 11.1	24	12	45 14	— 0 19.8
25	11½	40 29	+ 1 44.4	24	9	45 16	— 0 26.4
24	10	40 30	— 0 15.8	21	12	45 25	+ 5 14.9
21	11	40 32	+ 5 15.5	19	11½	45 34	+ 3 33.6
24	12	40 47	— 0 12.6	24	11	45 46	— 0 21.2
24	12	40 48	— 0 10.8	19	12	45 48	+ 3 34.6
25	10½	40 52	+ 1 35.6*	24	11	45 54	— 0 23.2
19	11	40 53	+ 3 51.8	24	11½	46 2	— 0 23.2
24	12	41 9	— 0 12.5†	21	11	46 10	+ 5 12.2
21	11	41 14	+ 5 19.8	25	11½	46 21	1 43.6§
24	11½	41 19	— 0 12.8	25	11	46 28	1 44.3
21	11½	41 25	+ 5 12.1	19	11	46 33	+ 3 38.4
24	11½	41 38	— 0 19.5	24	11½	46 35	— 0 18.6
19	12	11 41 47	+ 3 45.2	19	11	11 46 44	+ 3 46.3

* S. *p.* of double. † Double. ‡ L. of double. § (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′ ″			h. m. s.	° ′ ″
19	10	11 46 45	+ 3 48.4	21	9½	11 53 0	+ 5 19.4†
19	10½	47 31	3 49.1	19	10½	53 7	+ 3 34.2
19	11	47 40	3 34.2	24	11	53 9	— 0 25.9
19	10½	47 53	+ 3 43.3	24	10	53 15	— 0 24.0
24	9	47 55	— 0 14.1	25	10	53 19	+ 1 39.0
25	9	48 23	+ 1 48.8	21	11½	53 21	5 12.1
19	11	48 28	3 35.0	21	11½	53 24	5 17.8
25	11½	48 51	1 45.9	25	11	53 25	1 40.4
21	10	48 54	5 13.6	19	10	53 29	3 48.7
19	11	49 3	3 34.7	19	10½	53 31	3 34.9
19	11	49 10	3 49.7	21	12	53 42	+ 5 15.2
25	10½	49 23	+ 1 37.9	24	11	53 45	— 0 16.4
24	11½	49 24	— 0 12.0	24	12½	54 9	— 0 12.8
21	11½	49 25	+ 5 30.2	25	11	54 15	+ 1 36.5
25	11½	49 28	+ 1 43.6	25	11	54 22	+ 1 31.2
24	11½	49 40	— 0 13.8	24	11½	54 53	— 0 25.6
24	11	49 44	0 15.5	19	12	54 58	+ 3 46.4
24	11	49 49	— 0 18.4	25	12	55 13	1 47.1
25	11	50 10	+ 1 42.9	25	12	55 16	1 45.8
21	11½	50 12	+ 5 25.4*	25	11	55 18	+ 1 53.9
24	11½	50 23	— 0 15.3	24	12	55 22	— 0 20.6
21	12	50 26	+ 5 22.4	24	12	55 27	— 0 19.9
25	11	50 34	1 47.3	19	11½	55 29	+ 3 46.1:
21	10	50 40	5 12.0	19	12	55 30	+ 3 45.3:
25	9½	50 41	1 49.5	24	12	55 31	— 0 21.7
25	11	50 43	1 43.6	25	10½	55 31	+ 1 33.8
25	10	50 53	1 42.4	24	11½	55 42	— 0 21.2
19	10	51 12	3 33.7	21	12	55 46	+ 5 26.4
19	12½	51 15	3 36.8	24	11½	55 50	— 0 21.6
25	10½	51 25	1 43.2	21	11½	55 57	+ 5 26.4
19	12	51 26	3 33.8	25	9½	56 21	1 51.1
19	12	52 28	3 48.4	25	9½	56 38	1 50.8
19	12	52 32	+ 3 46.3	25	11	56 40	1 42.8
24	11	52 40	— 0 14.5	19	9	56 44	+ 3 44.3
24	Neb.	11 52 42	— 0 15.8	24	11½	11 56 47	— 0 27.9‡

* Double. † (4). ‡ A 9th *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	12	13 29 40	— 8 23.3	18	9	13 34 2	— 8 54.6
24	11	29 57	7 40.3	25	10½	34 9	7 17.9
18	9	30 19	8 58.0	21	11	34 22	8 4 9
25	11½	30 25	7 9.1	21	11	34 26	8 1.6
25	11	30 36	7 22.9	24	10½	34 28	7 34.1
18	12	30 40	8 55.7	18	10	34 31	9 2.6
25	11	30 41	7 10.4	24	11	34 36	7 34.1
18	8	30 46	9 7.2	21	11½	34 45	8 6.9
18	11	30 57	8 59.6	25	9	35 13	7 15.5*
21	11½	31 7	7 55.5	19 21	10	35 14	8 6.5
24	11	31 9	7 32.6	24	11	35 24	7 29.1
21	10	31 11	8 1.3*	25	10½	35 27	7 15.7*
21	11	31 11	7 55.8	21	10½	35 36	7 55.4
21	11	31 19	7 56.0	24 25	9	35 36	7 24 8
24	11½	31 26	7 29.7	25	9	35 53	7 15.5
19	10½	31 32	8 19.6	18	9½	35 55	9 6.2
25	11	31 34	7 13.6	21	11½	36 0	7 55.1
25	11	31 50	7 26.1	25	11½	36 6	7 15.7
19	10	31 52	8 19.3	19	10½	36 9	8 20.4
19	11½	31 54	8 21.1	24	9	36 20	7 43.9
18	10	32 0	8 51.0	18	9	36 22	8 58.5
18	12	32 17	8 50.3	21	10½	36 23	8 1.6
18	11½	32 22	8 49.8	24	10½	36 46	7 47.2
25	11	32 24	7 5.7	24	12½	36 48	7 39.5
21	12½	32 27	7 33.3	21	10½	36 50	8 0.9*
21	12	32 29	7 52.3	18	10½	37 0	9 3.1
18	11	32 31	8 55.3	21	10	37 2	8 6.0
25	12	32 32	7 10.3	25	11	37 3	7 23.8
18	11	32 39	8 58.7	18	10½	37 13	9 4.1
24	12	32 52	7 39.0	25	10	37 14	7 17.8
19	9	33 4	8 21.6	19	11	37 29	8 10.9
19	12	33 12	8 25.7	19	10	37 41	8 12.0
24	9½	33 30	7 33.9	25	10½	37 58	7 22.6
24	11	33 38	7 30.9	25	10	37 59	7 13.7
19	11½	13 33 58	— 8 21.6	24	10½	13 38 1	— 7 32.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
25	9	12 11 28	+ 1 39.4	24	11½	12 19 47	— 0 19.3
25	9½	11 28	1 44.9	24	11	19 50	0 23.1
25	11½	11 35	+ 1 47.5	24	11½	19 52	0 20.1
24	12	11 54	— 0 13.8	24	11	20 19	0 16.0†
25	10½	11 56	+ 1 48.2	24	10½	21 35	0 26.9
24	11½	12 7	— 0 8.8	24	10½	21 47	— 0 22.3
24	10	13 0	0 17.5	25	10	23 4	+ 1 39.4
24	11½	13 7	— 0 21.9	25	9	23 10	1 41.1
25	10	13 10	+ 1 45.6	25	11½	23 18	1 45.4
24	11	13 13	— 0 22.2	25	11½	23 23	1 50.4
25	11½	13 19	+ 1 37.0	25	11½	23 29	+ 1 44.4
25	11½	14 11	1 47.0	24	9½	24 0	— 0 26.9
25	11½	14 16	+ 1 34.3	24	11½	24 21	0 19.0
24	11	14 24	— 0 25.8	24	11	24 28	0 26.1
24	11	14 29	— 0 25.8	24	10½	24 53	— 0 25.2
25	11	15 8	+ 1 47.8	25	11½	25 2	+ 1 44.2
24	9	15 24	— 0 6.3	24	10	25 9	— 0 21.3
25	10½	15 25	+ 1 39.2	25	10	25 27	7 21.7
25	11	15 29	+ 1 35.1	25	11	25 36	7 21.8
24	10½	15 47	— 0 10.4	25	12	25 45	— 7 22.8
24	10½	15 52	0 27.0	25	10½	25 47	+ 1 42.7
24	9	16 29	— 0 24.8	24	10	25 54	— 0 19.7
25	9	16 38	+ 1 33.7	19	11½	26 3	8 25.2
25	10½	17 8	1 39.9	25	11½	26 4	7 20.9
25	11½	17 10	+ 1 46.9	25	11	26 8	7 19.1
24	11	17 21	— 0 24.3	24	10	26 15	7 39.0
24	10	18 13	0 16.6*	24	10½	26 20	— 0 20.6
24	10	18 16	— 0 26.7	25	10	26 24	+ 1 49.9
25	11	18 23	+ 1 37.5	24	11	26 34	— 0 24.2
24	10½	18 32	— 0 25.3	25	11	26 37	7 10.3
25	11	18 50	+ 1 39.1	24	11	26 39	0 21.1
25	10	18 50	1 48.5	19	10½	26 49	8 14.1*
25	11	18 54	+ 1 34.3	24	10½	26 50	0 24.7
24	10	19 4	— 0 15.2	24	11	26 56	0 18.5
25	11	12 19 41	+ 1 48.0	25	9	12 26 57	— 7 13.6

* (4). † Qu. 19 m.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	10	13 47 28	— 8 7.8	18	11	13 51 40	— 8 49.2
18	11	47 29	8 48.9	24	11	51 46	7 39.4
19	10	47 38	8 11.6	17	12	51 51	15 5.7
19	9½	47 55	8 6.8	17	11½	52 8	15 3.1
24	10½	47 59	7 35.3	21	11½	52 13	7 52.3
24	11	48 3	7 29.2	24	11	52 15	7 33.6
24	10½	48 21	7 36.6*	21	12	52 26	7 58.6*
18	11	48 29	8 47.2	17	12	52 30	15 6.6
24	11	48 29	7 34.9	17	11½	52 50	14 50.4
21	11½	48 30	8 2.7	18	11½	53 9	8 48.5
25	9½	48 35	7 12.1	19	11½	53 9	8 24.0
18	10	48 41	8 48.8	21	11	53 9	8 3.3
18	11	48 43	8 58.3	21	12	53 12	8 6.3
21	10½	48 51	7 54.3	19	11	53 34	8 10.1
19	10	48 56	8 20.2	18	11	53 35	8 50.9
25	10	49 0	7 18.5	18	10	53 43	9 6.3
19	11	49 7	8 18.4	25	9½	53 45	7 23.7
19	12	49 23	8 16.0	19	11½	53 55	8 12.1
21	10½	49 45	8 6.1	17	10	53 57	14 51.6
19	12	49 46	8 19.3	25	11½	53 58	7 28.7
24	11½	50 0	7 39.9	19	10½	54 4	8 9.5
21	11½	50 10	7 55.7	18	10½	54 17	8 55.7
18	10	50 15	8 59.6	25	12	54 19	7 18.0
18	10	50 19	9 1.1	21	11½	54 22	7 54.7
24	10	50 28	7 33.3	17	11	54 24	15 5.7
17	10½	50 31	15 0.5	18	11½	54 29	8 52 4
21	11	50 41	8 5.0	24	11	54 33	7 34.3
21	12	50 45	8 7.3	19 21	9	54 38	8 4.8
17	10	50 59	14 49.0	19	11	54 40	8 12.8
21	11½	51 0	8 5.6	18	11	54 51	8 52.8
19	11½	51 13	8 15.3:	21	10	54 51	7 54 0
19	11½	51 19	8 19.8	24	11	55 2	7 35.9
24	11	51 27	7 37.0	25	10	55 7	7 17.9
24	10½	51 28	7 44.6	24	11	55 15	7 38.5
18	11½	13 51 31	— 8 55.6	25	10	13 55 16	— 7 15.7*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11	12 32 36	— 8 50.5	21	11½	12 36 3	— 8 2.4
19	11	32 44	8 10.9	24	11	36 7	7 42.4
21	11½	33 4	8 1.1	25	11	36 23	7 25.2
24	11	33 12	7 46.7	18	12	36 28	8 52.9
21	10	33 13	7 56.9	19	11½	36 41	8 21.4
25	12	33 13	7 15.4	18	12	36 44	8 54.8
19	10½	33 18	8 23.5	19	10½	36 47	8 25.5
19	8	33 23	8 25.3	18	11	37 0	8 54.5
18	8	33 24	8 59.9	21	11½	37 16	8 6.0
25	11	33 32	7 17.9	24	12	37 21	7 30.2
21	11	33 35	7 53.5	21	11½	37 25	7 52.5
25	10	33 35	7 16.2	24	12	37 29	7 29 3
18	10	33 41	9 2.5	25	9	37 35	7 12.7
24	10	33 44	7 44.3	19	10	37 53	8 13.6
19	11	33 45	8 3.9	25	10½	37 53	7 20.7
18	9½	33 50	8 57.9*	25	12½	38 3	7 21.0
19	9	34 3	8 4.6	19	9½	38 8	8 24.0
21	11	34 9	8 7.3	25	11	38 15	7 23.8
24	11½	34 10	7 28.6	24	12	38 23	7 30.6
24	11½	34 14	7 31.2	24	11	38 26	7 33.1
18	9½	34 20	8 55.8*	24	12	38 27	7 35.5
19 21	11½	34 23	8 7.1	24	11½	38 35	7 33.9
25	11½	34 39	7 8.6	25	11½	38 41	7 15.1
25	11½	34 55	7 16.1	18	9½	38 43	9 2.1
24	11	35 16	7 43.6	18	10½	38 44	8 58.8
24	9	35 20	7 47.1	24	10	38 47	7 41.4
24	10	35 27	7 40.1	18	11½	38 48	8 54.3†
21	11½	35 29	8 1.9	19	11½	38 53	8 8.4
19	10	35 34	8 17.1*	18	11	39 1	8 50.2
21	10½	35 51	7 52.3	25	11½	39 16	7 11.4
21	9	35 52	8 0.8	21	11	39 19	7 53.7
24	10	35 59	7 39.9	25	12	39 26	7 13.8
21	9½	36 0	7 51.2	21	11½	39 44	8 6.4
19	10	36 2	8 14.5	21	11½	39 50	8 7.4
24	11	12 36 2	— 7 39.3	24	11½	12 40 4	— 7 46.2

* (4). † p. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
25	9½	14 3 13	— 7 20.8	17	12	14 12 41	—14 54.4
18	11	3 22	9 3.6	17	12	12 53	14 56.2
17	11	3 30	14 52.0	17	11½	13 4	14 57.0
24	10½	3 30	7 29.9	17	10	14 12	14 51.6
17	11	3 40	14 54.4	17	10½	14 21	14 53.8
19	10	3 43	8 24.7	17	11	15 56	15 3.2
21	11½	3 54	8 3.9	17	10	15 57	14 55.1
18	10	3 55	8 56.9	17	10½	17 33	15 5.7
19 21	10	4 6	8 3.5*	17	12	18 0	15 3.6
18	11½	4 9	9 3.0	17	11	18 11	15 6.2
24	12½	4 18	7 32.8	17	10½	18 40	15 5.8
18	9½	4 20	9 3.4	17	11½	19 12	15 2.6
24	9	4 36	7 30.9	17	11	19 17	15 3.6
24	12	4 38	7 34.0	17	11½	20 26	14 50.1
24	11½	4 39	7 31.3	17	11	21 31	14 57.1†
24	11	4 40	7 34.9	17	11	21 55	14 52.0
21	11½	4 56	7 58.8	17	10½	23 25	15 1.3
18	10½	5 3	9 5.7	17	11	23 39	14 54.1
21	9½	5 8	7 54.0	17	11½	23 41	14 55.2
18	9	5 19	9 0.4	17	11	25 18	15 4.6
17	11½	5 20	14 52.9	17	9	25 37	15 2.1
18	11	5 28	9 3.6	17	11	26 11	14 51.1
21	10½	5 30	7 55.9	17	11	27 2	14 54.1
19	10	5 31	8 17.0†	17	12	27 28	15 3.9
24	10	5 44	7 42.2	17	10½	27 56	14 52.1
24	10	5 46	7 49.8	17	11	28 45	15 6.2
17	11	6 59	14 50.1	17	11	30 22	14 57.3†
17	11	7 4	14 59.2†	17	11	30 31	14 56.7†
17	11	7 21	15 3.3	17	12	31 53	14 51.4
17	10½	8 11	15 3.2	17	12½	32 33	14 49.2
17	9	9 41	15 4.7	17	9½	33 2	14 51.0
17	12½	10 21	15 5.4	17	12	33 9	14 55.5
17	9½	10 56	15 3.1:	17	11½	34 45	14 52.8
17	10½	11 50	15 10.0	17	11½	34 55	14 53.3
17	12	14 11 57	—14 57.0	17	11	14 35 5	—15 6.2

* L. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
17	11½	14 35 41	—15 5.8	17	11½	14 41 44	—14 54.4
17	11½	37 0	14 54.0	17	11½	42 1	14 54.7
17	11	38 44	15 1.8	17	11½	42 13	14 52.3
17	10½	39 24	15 4.6	17	11	42 18	14 56.5
17	11	39 29	15 0.3*	17	11½	43 4	15 7.2
17	11	39 34	15 0.2	17	10½	43 28	15 5.0
17	11	14 40 3	—14 53.1	17	10	14 44 4	—14 50.8

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

727 STARS NEAR THE ECLIPTIC,

OBSERVED IN MAY, 1854, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11½	12 26 29	— 6 55.8	2	11	12 33 4	— 7 2.0
2	10	27 22	6 55.2*	2	11	33 13	7 3.4
2	11½	27 31	6 56.4	2	10	33 16	6 56.4
2	10	28 12	6 54.6*	2	10	34 10	6 59.7
2	10½	28 26	6 58.5	2	10½	34 24	7 0.8
2	9	29 5	6 55.1	2	10	34 40	6 47.2
2	10½	30 1	6 53.5	2	11	35 35	6 53.1
2	11½	30 9	7 2.9	2	11½	35 38	6 50.1
2	10½	30 25	7 4.6	2	11	35 51	6 50.9
2	12	30 33	7 1.2	2	11	35 58	6 58.0
2	9½	31 36	7 3.0	2	10½	36 17	6 56.4
2	11	32 23	6 53.4	2	10	37 20	6 54.2
2	10½	32 41	7 0.6	2	9½	37 57	6 59.0
2	11	32 51	7 1.6	2	11½	38 13	6 54.9
2	9	12 33 4	— 6 58.9	2	10	12 38 32	— 7 3.1

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	12 38 38	— 7 2.4	2	11	13 7 9	— 6 58.2
2	11½	40 34	6 47.4	2	11½	7 25	7 4.4
2	10½	41 32	6 53.8	2	12	7 40	7 0.9
2	11½	41 57	6 58.0	2	11	8 12	7 3.2
2	11	42 15	6 52.1	2	9½	8 13	6 55.4
2	11½	42 17	6 55.2	2	10	9 12	6 58.3
2	11	42 43	6 52.6	2	11	10 50	7 6.1
2	11	43 13	6 50.0	2	12	11 1	7 4.9
2	11½	43 43	7 5.3	2	12	11 15	7 4.5
2	10½	44 40	6 58.5	2	10	11 27	7 4.1
2	11½	46 45	6 48.2	2	11	11 39	6 58.7
2	10½	49 18	6 57.4	2	11	11 59	6 52.0
2	10	50 1	6 57.5	2	10	13 30	6 54.7
2	9½	50 27	6 50.2	2	10½	14 1	6 57.5
2	10	50 30	6 50.4	2	10½	15 18	7 4.2
2	10	51 27	6 56.4	2	11½	15 33	7 2.9
2	9½	52 9	7 5.2	2	10	15 41	6 55.9†
2	10½	52 23	6 54.7	2	11½	17 7	6 53.4
2	11½	52 28	6 58.2	2	10	17 13	6 54.8
2	9½	52 56	6 56.5	2	11	18 24	7 2.9
2	10	53 9	7 0.7	2	11½	18 55	6 58.3
2	11½	53 12	7 0.5	2	10	19 51	7 5.2
2	10½	53 39	7 0.7	2	10	20 4	7 2.9
2	11½	54 35	6 49.2	2	11	20 22	7 4.6
2	11	56 10	7 3.4	2	9½	20 30	6 53.0
2	9	58 3	6 51.1	2	12½	21 52	6 48.5
2	11	58 44	6 53.5	2	9½	22 2	6 48.5
2	11½	58 50	7 0.5:	2	10½	23 55	6 51.6‡
2	11	59 18	6 58.0	2	10½	25 27	7 5.6§
2	10	12 59 55	6 53.8	2	11	26 14	6 52.4
2	Neb.	13 1 52	7 1.8	4	11	26 29	13 25.6
2	11	2 25	6 54.4*	2	12½	26 36	6 52.4
2	11	3 57	7 4.5	4	11	26 46	13 22.1
2	10	5 48	6 44.1	4	11	27 3	13 21.0
2	10½	13 6 29	— 6 50.5	2	12½	13 27 45	— 6 49.1

* Small star S. *p.* † (4). ‡ Close double. § L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	11	13 27 51	— 6 52.4	2	11½	13 37 21	— 6 51.9
2	12	27 51	6 48.4	2	11	37 42	7 2.4
4	11	28 8	13 6.1	4	11	38 28	13 15.2
4	11½	28 19	13 18.9	4	11½	38 33	13 15.5
4	11½	28 46	13 23.8	4	11½	38 35	13 9.8
2	11½	28 57	7 6.9	2	11	38 40	6 58.8
4	11	29 11	13 21.8	2	11	38 42	7 0.0
2	11½	29 18	7 3.5	4	11½	38 53	13 18.7*
4	11½	29 52	13 13.4	2	11½	39 3	6 59.3
4	10½	31 3	13 20.3	2	11	39 10	6 55.8
4	11	31 33	13 15.5	2	9½	39 40	6 54.3
2	11	31 34	7 4.3	4	10	39 49	13 22.8
2	11	31 35	6 57.2	4	11½	39 51	13 20.4
2	12½	31 38	7 4.1	2	11	40 52	6 57.6*
4	11½	31 42	13 14.7	2	11	41 29	7 3.9
4	9½	32 38	13 12.2	4	12	41 40	13 18.4
4	10½	32 41	13 22.9	4	11½	41 48	13 21.4
2	11½	33 5	7 3.5	4	11	42 25	13 16.4
2	11½	33 31	7 4.3	4	11½	42 27	13 20.9
4	9½	33 41	13 7.8	4	11	42 40	13 19.2
4	11	33 42	13 21.2	4	10	43 0	13 20.3
2	10	34 1	6 51.3	4	10	43 7	13 23.2
4	11	34 1	13 25.1	2	10	43 33	6 52.7
4	9	34 15	13 23.7	4	11½	43 38	13 14.8
2	11	34 23	6 53.7	2	11	43 55	6 48,0
2	10½	34 25	6 52.2	2	11	44 10	6 49.6
2	11	34 41	7 5.0:	4	11½	44 43	13 20.7
4	11½	35 26	13 24.1	4	11	44 57	13 26.6
2	11	35 30	6 54.2	4	10½	45 18	13 8.9
4	9½	35 34	13 29.2	4	11	45 55	13 14.1
4	11½	36 5	13 8.1	4	10½	46 0	13 11.7
4	11	36 26	13 13.0	2	11	46 8	7 4.4
4	11	36 34	13 .9.8	4	11½	46 12	13 12.1
2	10	36 47	7 2.2	2	11½	46 49	7 3.4
4	11½	13 37 18	—13 8.7	2	11	13 46 52	— 7 2.9

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	10	13 47 7	—13 13.0	2	10½	13 56 4	— 6 58.7
4	11	47 21	13 13.3	4	9	56 37	13 25.2
2	11	47 34	6 58.2	2	10½	56 45	6 50.6
2	11	47 46	6 49.1	2	11	57 27	7 4.0:
2	10½	48 8	6 56.6	4	11½	57 29	13 12.8
4	11½	48 16	13 20.5	4	11½	57 42	13 10.3
4	9	48 24	13 9.3	4	11½	57 49	13 22.5
4	11	48 25	13 20.5	2	10½	57 59	7 2.4
2	11½	49 49	7 2.6	4	11½	58 45	13 18.4
4	10½	50 0	13 20.8	2	10	59 22	6 53.7
4	10½	50 7	13 17.4	2	10½	59 28	7 0.9‡
4	11	50 17	13 19.5	2	11½	59 35	7 3.8
4	11	50 18	13 22.4	2	11	59 36	6 52.0
2	10	50 27	7 0.7	4	11	13 59 40	13 24.2
2	12½	50 28	6 54.3	4	11½	14 0 21	13 7.1
2	12	50 56	6 52.2	4	11½	0 34	13 12.0
2	11	51 9	7 0.6	22	10	0 45	17 32.5
2	11	51 18	7 2.9	4	10	0 48	13 16.6†
2	11	51 55	7 5.3	2	11	0 53	6 54.4
4	11½	51 55	13 21.0	22	10½	0 56	17 36.5
4	12	52 8	13 21.9	22	11	0 58	17 32.4
4	11	52 29	13 23.7	2	11½	1 1	7 5.0
2	11½	53 3	6 56.6	22	9½	1 15	17 34.3
4	10	53 19	13 24.9*	22	11	1 16	17 30.6
4	11	53 31	13 22.8	22	10	1 24	17 36.7
4	11	53 36	13 18.6	2	11	1 44	6 52.6
2	12	53 37	6 55.3†	22	11	1 46	17 39.8
4	10½	53 47	13 23.7	4	11	1 48	13 23.1§
2	11	54 51	6 51.3	2	12½	1 50	6 52.2
4	10	55 21	13 7.8	2	10½	1 55	7 4.0
2	11	55 22	7 4.7	4	11½	2 7	13 18.4
4	11	55 22	13 14.3	4	10	2 24	13 12.1
2	11	55 26	6 57.2†	22	11½	3 18	17 43.4
4	10	55 44	13 10.9	2	12½	3 19	6 53.3
4	11	13 55 57	—13 23.4	2	11½	14 3 22	— 6 53.9

* L. of double. † (4). ‡ Small star *f*. § An 11th N. *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11	14 3 22	—17 45.9	4	12	14 15 7	—13 19.0
22	11	3 24	17 44.8	4	11	15 7	13 21.1
2	9½	3 31	7 0.4	22	10½	15 11	17 31.1
2	11½	3 42	6 59.8	4	11	15 15	13 18.6†
4	11	3 58	13 23.6	22	11	15 36	17 44.3
4	10	4 8	13 22.9	4	11	15 53	13 16.5*
4	11½	4 10	13 19.3*	4	11	16 0	13 12.7
22	9½	4 27	17 26.6	4	12	16 1	13 8.6
22	9½	5 38	17 36.7*	22	10½	16 44	17 47.7
22	11	5 46	17 44.3	22	11½	17 22	17 38.0
4	11	6 34	13 21.7	22	10½	17 29	17 49.2
4	11½	6 39	13 25.2	22	12	17 38	17 41.3
4	11½	6 46	13 23.4	22	9½	17 51	17 43.2
4	10½	6 52	13 19.0	4	11	18 17	13 20.5
4	10½	7 28	13 23.8	22	11	18 21	17 43.1
4	11	7 30	13 16.3	4	11½	18 25	13 9.8
22	10½	7 49	17 50.4	4	12	18 27	13 21.3
22	11	8 35	17 33.9	22	11	18 54	17 43.0
4	11½	9 25	13 20.6	4	10	19 10	13 18.0*
22	11½	9 51	17 44.7	4	11½	19 18	13 12.3
22	11	10 4	17 38.8::	22	11	19 24	17 34.4
22	11½	10 7	17 43.0	22	11½	19 36	17 33.3
4	10	10 45	13 19.3	4	11½	19 57	13 12.7
4	11	11 53	13 9.4	22	10	20 43	17 46.6
4	11	11 57	13 10.1	4	11	21 1	13 9.5
22	11	12 13	17 42.5	22	8½	21 10	17 34.9
4	10½	12 26	13 6.3	22	9½	21 15	17 30.3
22	11	13 0	17 35.7	22	11	21 26	17 35.8
4	12	13 1	13 23.7	22	10	21 45	17 40.5
22	10	13 7	17 42.5	4	11	21 47	13 19.4
4	11½	13 13	13 10.4	4	11	22 22	13 22.3
22	11½	13 32	17 44.6	4	11	22 27	13 10.8
22	10½	14 12	17 50.3	22	10½	23 2	17 31.2‡
22	11	14 22	17 50.7	4	10½	23 31	13 19.6
4	10	14 14 29	—13 22.0	22	11	14 23 35	—17 30.9

* (4). † Double. ‡ L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	11½	14 23 45	—13 24.4	4	11½	14 35 4	—13 21.5
4	11	23 54	13 21.2	4	12	35 14	13 24.1
4	11	24 0	13 24.4	4	12	35 25	13 20.1
22	11	24 22	17 44.7	22	11	35 28	17 45.2
22	9½	24 22	17 50.0	4	11½	35 33	13 21.2
4	11½	25 4	13 8.9	22	11	35 40	17 41.5
4	10	25 27	13 14.0	22	11½	35 40	17 45.7
22	10½	25 33	17 44.7	22	10	36 5	17 44.5
4	11½	26 8	13 24.7	22	10	36 10	17 43.4
4	12	26 48	13 9.8	4	9	36 34	13 12.2
4	9½	26 49	13 10.9	4	11½	36 51	13 26.3
4	11	26 54	13 18.1*	4	11	37 3	13 21.3
22	10½	27 4	17 31.7	4	11½	37 12	13 26.0
4	11½	27 37	13 5.9	4	10	37 23	13 24.1
22	11	28 5	17 40.6	22	10	38 21	17 42.8:
22	10	28 15	17 39.9	4	10	38 24	13 16.0
22	10	28 20	17 44.5	4	12	38 30	13 8.2
4	10	28 32	13 24.9	4	12	38 46	13 9.7
4	11½	28 47	13 14.8	4	11½	39 51	13 9.6
22	11	29 59	17 26.9	4	10	40 17	13 23.8
22	11	30 1	17 34.7	22	11	40 59	17 31.9
4	11	30 23	13 18.8	4	10½	41 9	13 9.8
4	12	30 32	13 12.1	4	12	41 16	13 11.2
22	10½	30 41	17 33.2	22	11	41 21	17 35.3
22	11½	30 46	17 34.2	22	11	41 23	17 34.1
22	11½	31 28	17 35.2	22	11	41 30	17 40.2
4	10	32 4	13 26.3	4	11	41 33	13 11.0
22	10½	32 13	17 29.1	22	9	41 51	17 41.2
22	11	32 14	17 42.6	4	11	42 14	13 16.6
22	10½	32 31	17 40.5	4	11½	42 24	13 12.8
22	11	32 52	17 43.2	4	11½	42 33	13 23.0
4	11	33 23	13 9.7	22	10	42 56	17 47.5
4	11	33 34	13 13.3	4	11	43 13	13 6.1
22	8½	34 8	17 34.3	22	10½	43 23	17 48.5
22	10½	14 34 33	—17 43.8	4	11	14 43 40	—13 6.1

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
4	11	14 43 41	—13 11.8	22	11	14 52 33	—17 47.8
22	11	44 13	17 45.5	22	10½	52 49	17 36.6
22	11	44 14	17 45.2	4	10½	52 52	13 6.2
4	11	44 47	13 24.6	4	10	53 1	13 15.6
22	11	44 50	17 35.6	22	11	53 24	17 32.2
22	9½	44 53	17 44.1	4	11	53 38	13 10.2
4	11½	45 5	13 18.6	4	11	53 42	13 8.9
22	10	45 16	17 43.7	22	11	54 13	17 31.0
4	11	45 43	13 20.6	4	11	54 21	13 12.0
22	9½	45 55	17 32.9	22	11	54 21	17 43.9
4	11½	46 18	13 10.3	22	11	54 50	17 29.7
4	11½	46 30	13 10.5	4	11	54 57	13 21.9
4	10	46 30	13 5.6	22	11½	54 58	17 39.5
22	10	46 40	17 39.3	22	11½	54 59	17 39.1
22	11	47 9	17 30.7	22	11	55 0	17 29.7
4	12	47 38	13 23.1	4	11½	55 12	13 20.2
4	12	47 41	13 20.8	4	11	55 33	13 15.8
22	10½	48 31	17 42.2:	4	11½	55 58	13 18.4
4	12	49 9	13 10.7	4	10½	56 0	13 8.2
4	11	49 31	13 14.5	22	11	56 21	17 50.4
22	11	49 41	17 44.1	22	10	56 41	17 47.0
4	11	49 56	13 24.6	4	11	56 51	13 20.4
22	9	49 58	17 42.8	4	11½	56 58	13 20.4
22	9½	50 38	17 32.6	4	11½	57 19	13 20.1
4	11½	50 48	13 8.4	4	11	57 33	13 22.0
22	11	50 54	17 43.0	22	11	58 31	17 36.6*
4	12	51 19	13 16.9	4	11½	58 39	13 22.5
22	11	51 22	17 41.2	4	11	58 39	13 26.3
4	10	51 28	13 9.8	4	11½	58 47	13 21.3
22	11	51 34	17 46.3	4	10½	59 5	13 23.5
4	12	51 38	13 14.7	25	12	59 9	21 12.3
22	10	51 46	17 44.8	22	12	59 12	17 42.7
22	10½	52 22	17 43.5	22	12	59 17	17 42.8
4	10½	52 31	13 9.6	25	10½	59 23	21 10.1
22	12	14 52 32	—17 44.0	4	11	14 59 37	—13 8.8

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
4	10½	14 59 50	—13 15.7	22	10½	15 6 14	—17 37.0
4	11	14 59 51	13 5.0	22	11	6 21	17 50.1
4	11½	15 0 14	13 9.9	25	11½	6 29	21 16.2
22	11	0 16	17 45.7	22	11	6 55	17 35.5
4	10½	0 24	13 14.7	25	10	6 58	21 17.9
25	9½	0 24	21 8.8*	22	10½	7 7	17 37.4
22	12	0 32	17 46.8	22	10	7 22	17 44.7
25	9½	1 7	21 9.9	25	10½	8 13	21 18.5
22	11	1 15	17 45.5	25	12	8 24	21 10.1
4	12	1 33	13 25.3	25	9	8 28	21 14.8
4	11	1 37	13 25.0	22	11½	8 37	17 35.2
25	12	1 55	21 12.8	25	12	8 39	21 9.8
25	10½	2 7	21 8.0	22	10½	8 45	17 40.5
4	10½	2 14	13 5.9	22	10½	8 47	17 34.8
22	10½	2 20	17 41.4	22	11	8 57	17 41.1
22	11	2 22	17 42.7	22	11½	9 11	17 44.5
25	12	2 45	21 12.0	25	11	9 51	21 15.7†
4	11	2 48	13 15.7†	25	10	10 21	21 16.1†
22	11	2 53	17 42.0	25	10½	10 27	21 18.6
4	11	2 55	13 24.9	25	10	10 46	21 14.0
22	11	3 13	17 25.6	25	10½	11 11	21 23.8
22	11½	3 36	17 32.9	25	11½	11 31	21 16.2
4	11	3 51	13 10.9	25	10½	11 39	21 15.0
25	11	4 5	21 20.7	25	10½	12 14	21 20.0
4	11½	4 17	13 24.2	22	11½	13 21	17 38.2
4	11	4 20	13 16.5	25	10½	13 26	21 29.4
25	11	4 34	21 24.4	25	11	14 2	21 24.4
4	9	4 36	13 9.1	25	11½	14 39	21 13.9*
22	11½	5 6	17 45.2	25	10	14 57	21 18.5
25	11	5 10	21 24.8	22	11½	14 58	17 30.3
22	11½	5 15	17 45.6	22	11½	15 2	17 30.0
22	10	5 26	17 46.3	25	11	15 9	21 12.8
25	11	5 42	21 26.1	22	12	15 15	17 31.9
25	10	5 48	21 12.4	22	10½	16 8	17 30.1
25	11	15 6 7	—21 9.8	25	10	15 16 9	—21 22.3

* L. of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11	15 16 17	—17 37.0*	22	10	15 25 48	—17 30.3
22	9½	16 57	17 33.8	25	11	25 56	21 19.0
22	11	17 23	17 49.2	25	11	26 4	21 12.7
25	10	17 34	21 13.0	22	10½	26 5	17 34.4
25	10	17 56	21 13.2	22	11	26 33	17 32.7
25	9½	18 24	21 20.6	22	10½	26 34	17 29.4
22	11½	18 26	17 33.9	22	12	27 13	17 46.1:
22	11	18 41	17 29.8	22	10½	27 32	17 29.4
22	10	18 42	17 34.0	22	10½	27 55	17 31.5
22	11	18 44	17 33.1	22	12	28 14	17 31.6
25	10	19 57	21 15.2*	22	9½	28 31	17 33.0:
25	10	20 3	21 18.1*	25	12	28 51	21 22.0
22	11	20 51	17 44.0	25	12	28 57	21 22.8
22	10	20 51	17 46.9	25	12	29 12	21 21.7
22	11	21 21	17 42.7	22	12½	29 44	17 32.0
22	9½	21 42	17 41.3	22	11	29 52	17 32.3
22	10	22 0	17 40.6	22	11	29 58	17 34.4
22	10½	22 1	17 27.2	25	10½	30 3	21 13.7
25	10½	22 2	21 25.7	25	10½	30 7	21 11.9
25	10½	22 21	21 22.5	22	9½	30 13	17 30.5
22	10½	22 34	17 29.0	22	12	31 19	17 45.6
22	11	22 34	17 37.0	25	10½	31 20	21 19.5
22	11	22 48	17 37.1	25	11½	31 24	21 11.5
25	11	23 4	21 18.7	25	10½	31 43	21 13.5
22	10½	23 27	17 37.0	25	11	31 51	21 20.8
22	11	23 36	17 38.3	22	10½	32 10	17 32.9
22	12	24 6	17 47.0	22	10½	32 16	17 43.0
25	10	24 23	21 29.4	25	9½	32 33	21 14.0
25	11	24 32	21 25.3	22	11½	33 13	17 28.9
25	11	24 41	21 22.6	22	10½	33 14	17 35.7
22	12	24 59	17 44.1:	25	8	33 24	21 24.7
25	10½	25 0	21 23.0	22	11½	33 27	17 30.8
22	10½	25 5	17 46.0	25	10	34 11	21 25.7
25	9½	25 41	21 13.6	22	10	34 14	17 33.5
25	11	15 25 43	—21 12.4	22	10½	15 34 26	—17 43.1

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
22	10½	15 34 48	—17 35.6	25	11	15 44 41	—21 22.6
22	11	35 12	17 47.9	25	11	44 45	21 20.2
25	10½	35 12	21 14.8	17	11½	44 57	17 45.5
22	12	35 15	17 40.7	25	12	46 42	21 10.6
22	12	35 21	17 43.6	25	12	46 45	21 12.9
22	12	35 32	17 40.9	25	12	46 52	21 11.3
22	10	35 38	17 40.3	25	11½	47 5	21 11.7
25	10½	37 1	21 13.2	22	8	47 14	17 35.1
25	10½	37 24	21 19.9	22	10½	47 33	17 44.8
22	12	37 26	17 39.9	22	10½	47 44	17 43.2
22	10	37 37	17 45.3	22	10½	47 46	17 39.9*
22	10	37 58	17 42.8	25	9	47 49	21 21.6
25	10	38 24	21 10.4	25	10	48 15	21 12.4
22	11	39 14	17 40.0	22	10½	48 32	17 30.7
25	10½	39 55	21 22.6	25	11	48 57	21 16.2
22	10	40 17	17 33.3	25	11	49 25	21 21.9
25	11½	40 43	21 13.8	25	11	49 54	21 20 4
25	12	40 58	21 13.4	25	10	49 56	21 16.0*
25	11	41 10	21 19.6	25	11	50 18	21 24.6
22	11½	41 16	17 42.0	22	11	50 47	17 36.9
22	10	41 37	17 45.4	22	12½	51 2	17 42.5
25	10½	41 40	21 12.4	25	11	51 24	21 9.5
22	10½	41 52	17 41.9	22	10½	51 30	17 41.6
22	12	42 39	17 29.4:	25	12	51 33	21 11.6
25	10	43 14	21 11.0	25	12	51 46	21 10.3
25	11	43 16	21 14.9	22	9	52 30	17 42.5
25	10½	43 27	21 10.9	25	9½	52 31	21 24.0
22	12	43 33	17 29.2	22	11	52 39	17 47.9
17	10½	44 7	17 45.2	25	10	53 17	21 16.4*
17	10½	44 14	17 42.4	22	12½	53 39	17 42.4
25	10	44 23	21 23.1	22	11½	53 44	17 45.5
17	11½	44 32	17 41.3	22	11	53 51	17 41.5
25	11½	44 34	21 0.0	25	10½	54 29	21 5.5
17	12	44 38	17 43.4	25	11½	54 42	21 8.7
17	11½	15 44 41	—17 46.1	22	11	15 55 12	—17 47.7

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
25	11	15 55 14	—21 14.2	22	10½	16 12 10	—17 40.5
25	10½	55 20	21 23.6	22	10½	12 53	17 42.7
25	10	56 19	21 20.0	22	11	13 29	17 44.0
25	11	56 55	21 18.2	22	10½	13 47	17 41.5
22	11	57 1	17 38.4	22	10½	14 38	17 28.8
25	11	57 6	21 20.6*	22	11	15 33	17 33.6
25	11	57 11	21 19.3	22	11	15 33	17 32.4
22	11	57 13	17 37.3†	22	11½	15 57	17 33.8
25	9	57 20	21 9.7	22	10½	16 39	17 45.7
22	10½	57 52	17 36.8†	22	10	16 50	17 30.3
25	10½	58 43	21 12.7	22	11	16 54	17 37.2†
25	10	59 25	21 5.7	22	11	17 35	17 43.2
25	10	59 31	21 13.5	22	11	18 5	17 39.9
22	11	59 38	17 36.5	22	11	18 15	17 44.5
22	11	15 59 45	17 42.0	22	10½	20 5	17 35.9
22	10½	16 0 57	17 25.9	22	11	20 22	17 33.4
25	10	1 14	21 10.5	22	11	20 23	17 33.6
22	10	1 41	17 45.4	22	9	21 37	17 40.1
22	10½	1 42	17 34.2	22	10½	22 4	17 32.2
22	10	2 8	17 34.9	22	12	22 53	17 44.0
22	11	2 53	17 29.4	22	9½	23 43	17 40.5
22	9½	2 56	17 36.1	22	11	24 10	17 36.4
22	11	4 56	17 42.1	22	11	24 55	17 42.2
22	10	5 20	17 41.8	22	11	25 29	17 46.1
22	11	5 59	17 44.9	22	11	26 53	17 36.6
22	10	6 53	17 37.9	22	12½	27 9	17 30.9
22	11	7 45	17 37.2	22	12½	27 28	17 38.6
22	11	8 5	17 30.8	22	11	27 43	17 30.6
22	11	8 15	17 34.1	22	11½	28 34	17 46.6
22	11	10 11	17 44.0	22	11	29 29	17 47.3
22	10	10 38	17 36.0	22	11	29 29	17 48.0
22	10	10 58	17 36.0	22	10½	30 48	17 25.7*
22	10	11 36	17 34.3	22	10½	16 30 51	—17 25.6
22	11½	16 12 10	—17 44.8				

* S. of double. † (4).

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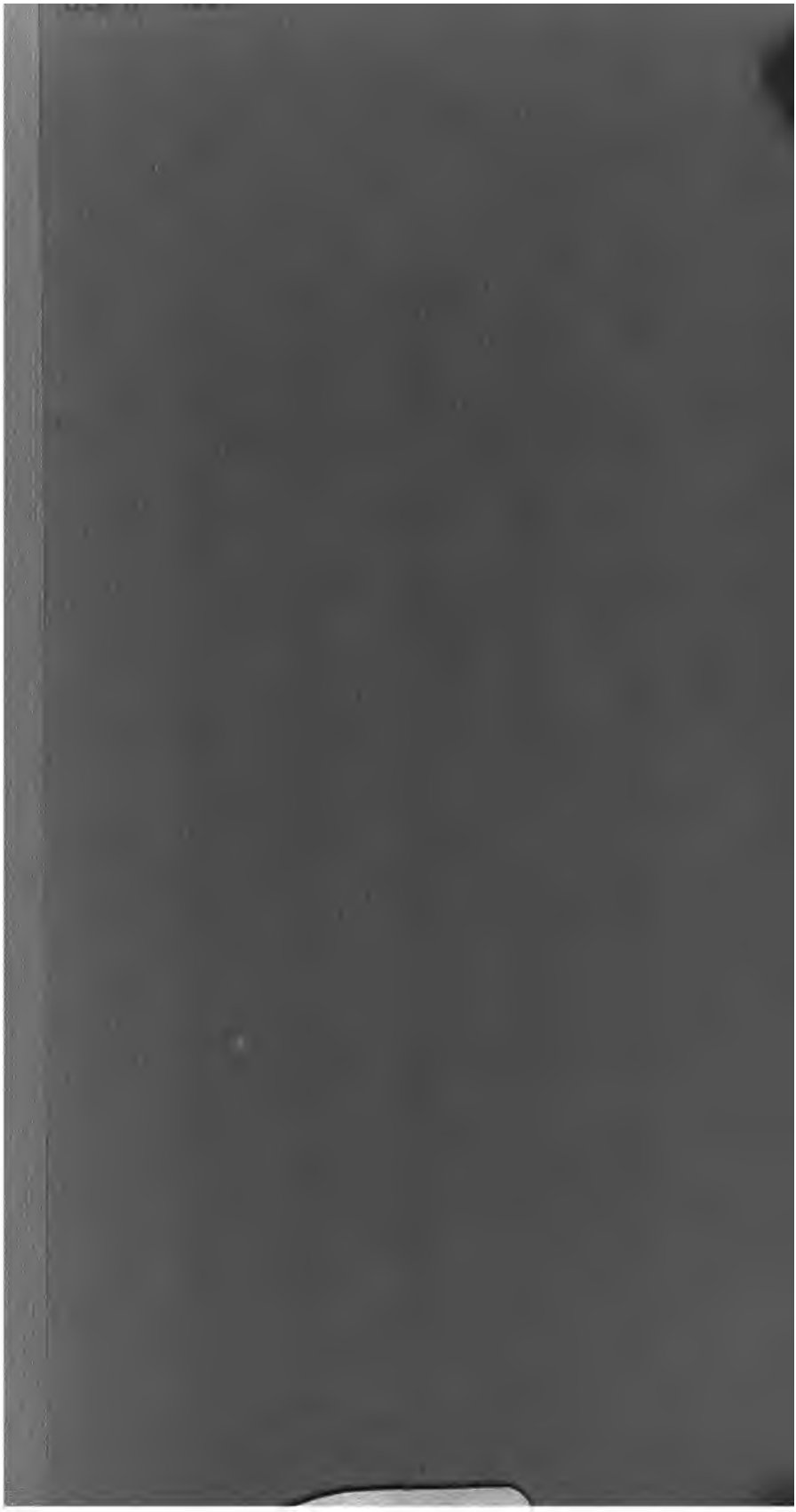
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